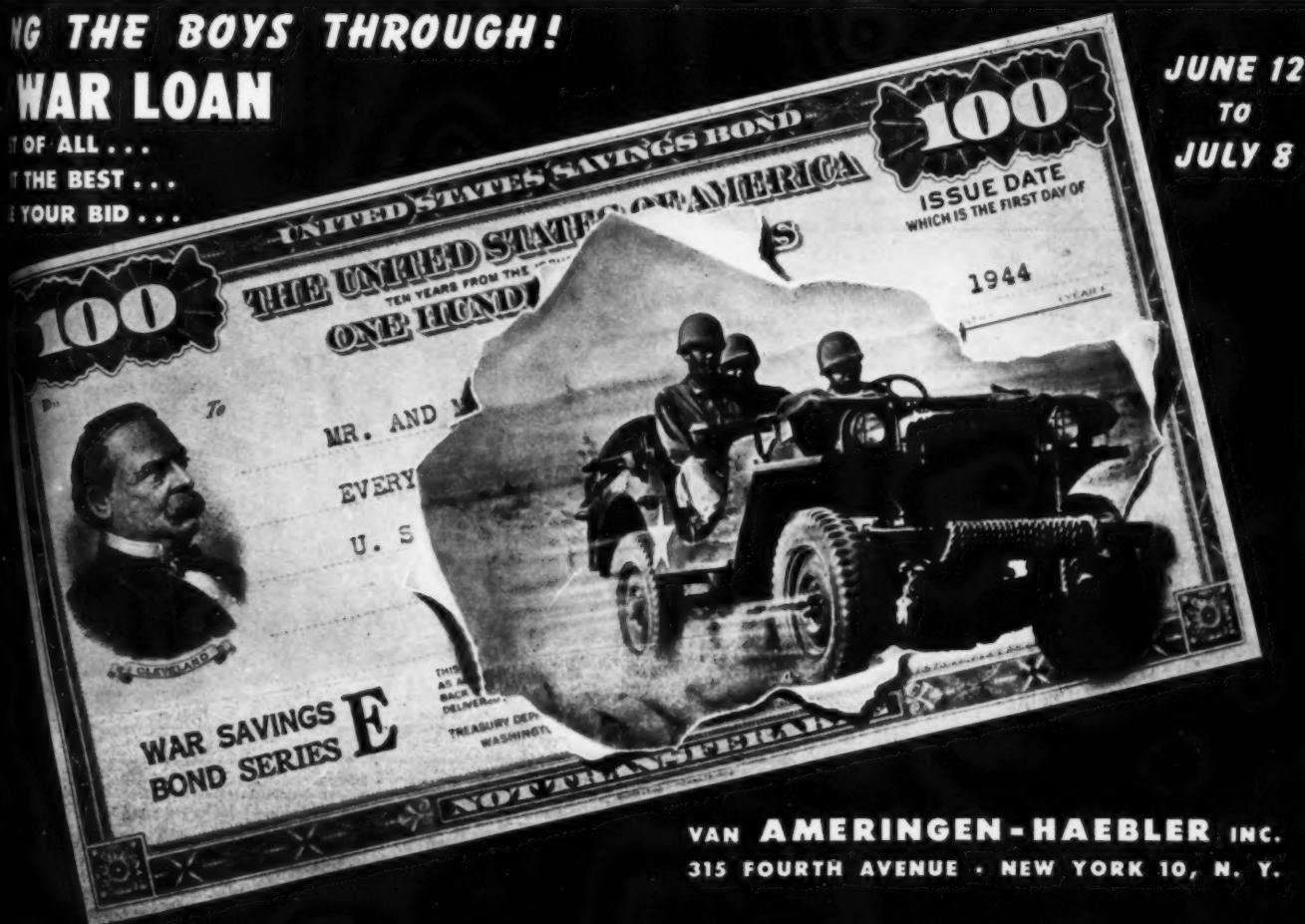


# SOAP

## SANITARY CHEMICALS

NG THE BOYS THROUGH!  
WAR LOAN

OF ALL . . .  
THE BEST . . .  
YOUR BID . . .



VAN AMERINGEN-HAEBLER INC.  
315 FOURTH AVENUE • NEW YORK 10, N. Y.

June 1944



*For over 145 years...*

THE D&O TRADEMARK HAS BEEN RECOGNIZED  
AS A SYMBOL OF CREATIVE ABILITY AND  
THE HIGHEST QUALITY STANDARDS IN THE  
FIELD OF AROMATICS AND ESSENTIAL OILS.

*We invite you to submit your perfuming problems  
to our competent compounding laboratories.*



NO OTHER CLEANER LIKE IT!

**FUJISHINE**  
\*ALKALI PROOF  
**CLEANER**

Current Production is SOLD OUT!

... but it is wise for you to anticipate your future requirements and place your order NOW.

The alkali-proof, natural, wax-free cleaner that can be used with rinsing; or without rinsing to obtain polished appearance on floors. Contains a harmless reserve chemical which maintains a neutrally balanced solution and prevents the freeing of any harmful alkali. Safe for all surfaces!

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2444 East 8th Street, Los Angeles 21, California  
New York Sales Office: 55 West 42nd Street

\* Trade Mark Reg. U.S. Pat. Off.

Liquid Soaps, Floor Seals, Floor Treatments, Deodorant Blocks, Liquid Deodorants, Plumbing Specialties, Special Cleaners, Self-Polishing Waxes, Powdered Waxes, Oil Soaps, Liquid Cleaners, Disinfectants, Insecticides, Metal Polishes, Furniture Polishes, Deodorant Block Holders, Soap Dispensers.

*Fuld  
Brothers*

*Lasting Fragrance and  
Covering Power*

*For DISINFECTANTS and  
FLY SPRAY ODORS*

*Reasonably Priced Blends*

CARNATION 2927  
CARNATION 3388  
EAU DE COLOGNE 2905  
EAU DE COLOGNE 3389  
GARDENIA 3390  
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JASMINE 2864

JASMINE 3387  
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LILY OF THE  
VALLEY 2862  
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*Single Aromatic Chemicals*

BENZOPHENONE  
BENZYL ACETATE  
HYDRATROPIC ALDEHYDE  
IONONES

METHYL ACETOPHENONE  
METHYL SALICYLATE  
PHENYL ETHYL ALCOHOL  
VANILLIN

*Request for samples on your firm's letterhead will be promptly answered.*



*Aromatics Division*  
**GENERAL DRUG COMPANY**  
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9 SO. CLINTON STREET, CHICAGO 6      1019 ELLIOTT ST., W., WINDSOR, ONT.

Volume XX

Number 6

# SOAP *and* SANITARY CHEMICALS

*Reg. U. S. Pat. Off.*

JUNE  
1944

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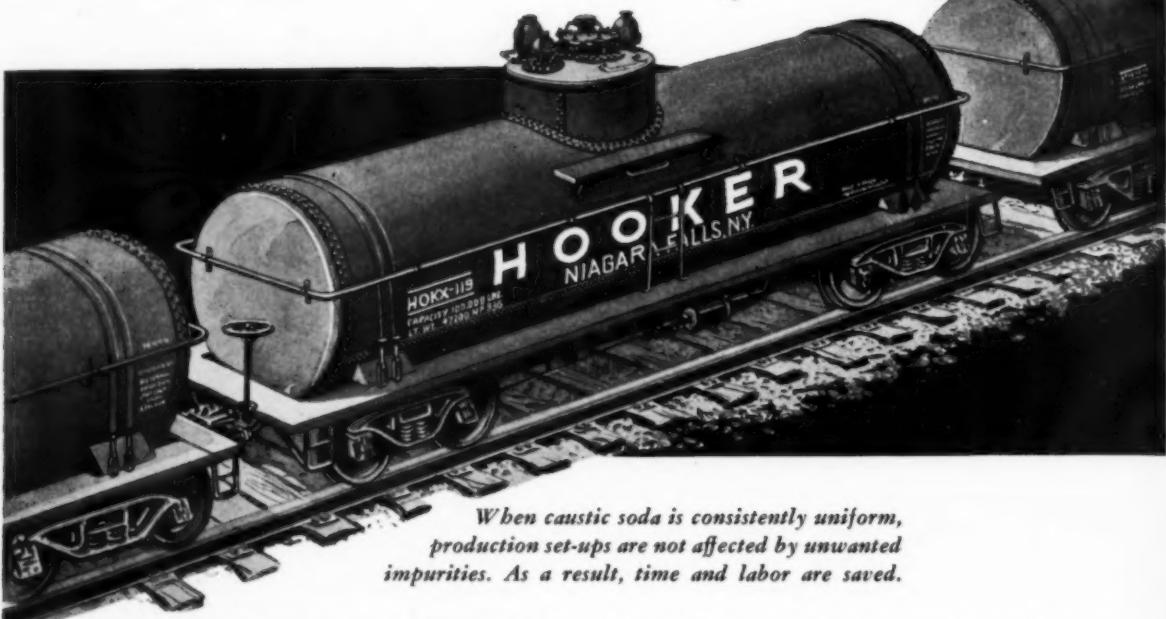
MAC NAIR-DORLAND COMPANY, INC.  
254 WEST 31st STREET NEW YORK 1, N. Y.

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IMPORTANT TO SOAP MANUFACTURERS

# HOOKER

CONTROL OF CAUSTIC SODA  
*Uniformity*



*When caustic soda is consistently uniform,  
production set-ups are not affected by unwanted  
impurities. As a result, time and labor are saved.*

When HOOKER describes its CAUSTIC SODA as "consistently uniform" this is a definite assurance to users. Controlled manufacture and tank car cleanliness are examples of HOOKER'S steps to achieve such uniformity.

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SODA has the same good quality and uniformity as when it left the plant.

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TO THE SOAP INDUSTRY INCLUDE**

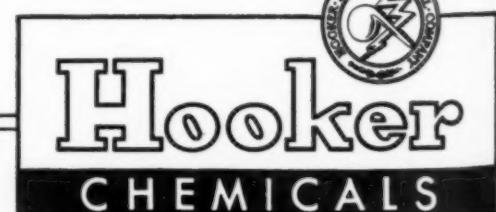
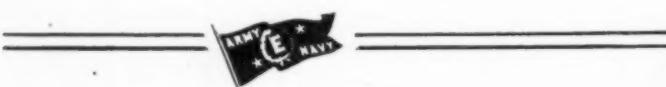
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BENZOIC ACID  
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MONOCHLORBENZENE  
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PARADICHLORBENZENE  
SULFUR DICHLORIDE  
SULFUR MONOCHLORIDE  
TRICHLORBENZENE

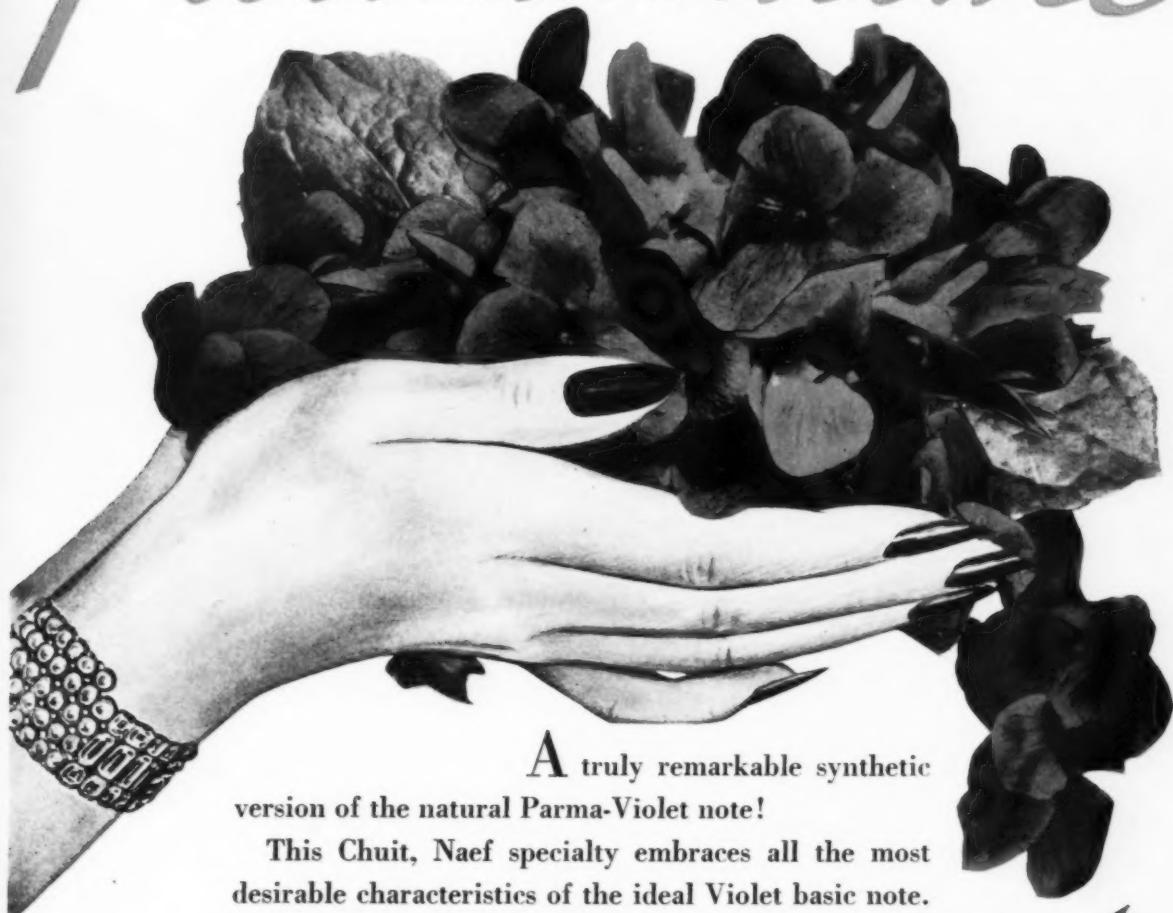
*For information about any of these Hooker products or for a complete products list write \_\_\_\_\_*

**HOOKER ELECTROCHEMICAL COMPANY**  
BUFFALO AVENUE AND UNION STREET  
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Branches: New York, N. Y. • Tacoma, Wash. • Wilmington, Calif.



# Parmantheme



A truly remarkable synthetic  
version of the natural Parma-Violet note!

This Chuit, Naef specialty embraces all the most desirable characteristics of the ideal Violet basic note. It is non-irritating—contains no methyl heptine carbonate—very fresh and tremendously powerful.

PARMANTHEME can be used in any type toilet preparation, being particularly effective in lipsticks, creams and perfume extracts.

*Additional Data and Quotations on Request*

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135 FIFTH AVE., NEW YORK • Chicago Office: 612 NORTH MICHIGAN AVE.



to you it's SANTOMERSE ←

## but to sailors it's SUDS

When a sailor scrubs his uniforms in *salt water* and gets *suds*, he knows the soap he's using has something. If you are familiar with Monsanto products, you'll probably say: "That something is Santomerse."

Giving salt-water soap abundant suds and cleansing power, is only one of many uses of Santomerse.

Santomerse, Monsanto's synthetic detergent and wetting agent, is effective in any water...hard or soft...hot or cold. While putting dirt to flight, Santomerse renders many bacteria and insects harmless.

Santomerse is a good product to keep in mind for after the war. If you'd like to have information on it now, we shall be pleased to send you literature. MONSANTO

CHEMICAL COMPANY,  
Phosphate Division, 1700  
South Second Street, St.  
Louis 4, Missouri.



Say you saw it in SOAP!

*Nysan*

# VICTORY Disinfectant

Better than Pine Oil Disinfectant

...NOT A SUBSTITUTE...

Since 1942 jobbers have sold  
**VICTORY DISINFECTANT**  
as an improvement over pine oil

- ★ It not only kills E. typhi, but also Staph. aureus, which causes boils. (Pine oil disinfectant won't kill Staph. aureus.)
- ★ Has a more fragrant pine forest aroma. (The strong odor of pine oil disinfectant is objectionable to many buyers.)
- ★ Forms a good white emulsion.
- ★ Costs less for the same phenol coefficient. (Your profits are larger, and the customer gets a more efficient product.)

Once you sell them VICTORY DISINFECTANT,  
they never go back to pine oil.

NYSAN PRODUCTS CO. 58 E. CULLERTON ST. CHICAGO 16

*White  
Sample*

MILITARY CHEMICALS

SELLING EXCLUSIVELY TO JOBBERS AND DISTRIBUTORS

*Typhoid Sample*



## **Synthetic floral oils . . .**

PRESENT reduced supplies of natural floral essences emphasize the value of high quality substitutes. Synthetic floral essences can be used to replace the natural oils with full satisfaction and marked success in numerous products,—toilet soaps, shampoos, shaving creams, powders, creams, and many others.

In fact, in many products the newer synthetic floral essences are to be *preferred* for the manner in which they reproduce the true fragrance of the living flowers in the finished product,—not to mention uniformity of quality and odor fidelity, and their economy under present conditions.

Let us tell you more about these Norda substitutes as an answer to the scarcity of natural floral oils.

# **NORDA Essential Oil and Chemical Co., Inc.**

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325 W. Huron St.

*Los Angeles Office*  
2800 E. 11th Street

*St. Paul Office*  
253 E. 4th St.

*Toronto Office*  
119 Adelaide St., W.

*New York Office*  
601 West 26th St.

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135 Commissioners St., W.

# G.H. Woods 25,000 CANADIAN ACCOUNTS

**OVER  
60 SALESMEN**

**20 BRANCHES  
SERVE  
INDUSTRIES  
HOSPITALS  
SCHOOLS  
HOTELS  
PUBLIC BUILDINGS  
RAILROADS  
RETAIL OUTLETS**



A black and white map of Canada. The word "DOMINION" is written diagonally across the top left corner, and "OF CANADA" is written vertically along the right side. The map shows the outlines of the provinces and territories. Major cities are marked with dots and labeled: WINNIPEG, REGINA, QUEBEC CITY, ST. JOHN, SHERBROOK, HALIFAX, OTTAWA, MONTREAL, TORONTO, KINGSTON, HAMILTON, WINDSOR, and LONDON.

*Provide a ready made market for  
**SANITATION AND CHEMICAL LINES***

G. H. Wood's manufacturing and selling organization in Canada is "ready-made" for additional lines in the Sanitation or allied fields. There is room in our "present and postwar" program for one or two additional important lines. Inquiries will receive prompt attention and be treated in strict confidence.



Wood's Package Division men cover all Drug, Grocery, Department, Chain and Syndicate Stores throughout Canada.

\* The map shows the location of some of the G. H. Wood & Co. Limited branches.

**G. H. WOOD & COMPANY LIMITED**  
*Industrial Sanitation*

**323 KEELE STREET • TORONTO**

**440 ST. PETER STREET • MONTREAL**

**BRANCHES • HALIFAX • SAINT JOHN • QUEBEC CITY • SHERBROOKE • OTTAWA • KINGSTON • HAMILTON  
LONDON • WINDSOR • WINNIPEG • REGINA • CALGARY • EDMONTON • VANCOUVER • VICTORIA**



*Bounty... with New Opportunities by*

# Givaudan

Though the perfume and cosmetic manufacturer is working under many restrictions and limitations today, he is being assured of a bountiful and varied supply of materials with which to create interesting new products in the future. For many of the "alternates" and "substitutes" developed to take the place of those formerly considered indispensable are proving to be highly effective and economical. Some, in fact, present entirely new opportunities for more efficient compounding of perfumes, cosmetics and toiletries.

Givaudan has developed and made available a variety of such materials . . . and is constantly using its extensive research and product development facilities to provide others. These, together with the tried and tested "reliables" of former years which will one day return from war service, will furnish Givaudan customers with a wider and more efficient range of working materials than they have ever had before. In planning your postwar products, consider the new opportunities offered by this expanding Givaudan service in aromatic chemicals.

BUY WISELY—BUY GIVAUDAN

## Givaudan-Delawanna, Inc.

330 WEST 42nd STREET • NEW YORK 18, N. Y.



### JUST OFF THE PRESS!

This new booklet, the only one of its kind, contains all the literature which has appeared in both domestic and foreign journals concerning the pharmaceutical properties and uses of SYNTHETIC MENTHOL. It is available, on request, to pharmaceutical manufacturers and other users of menthol.



# Good News

Deliveries of No. 13 Liquid Soap Dispensers  
will begin In Less Than Ninety Days



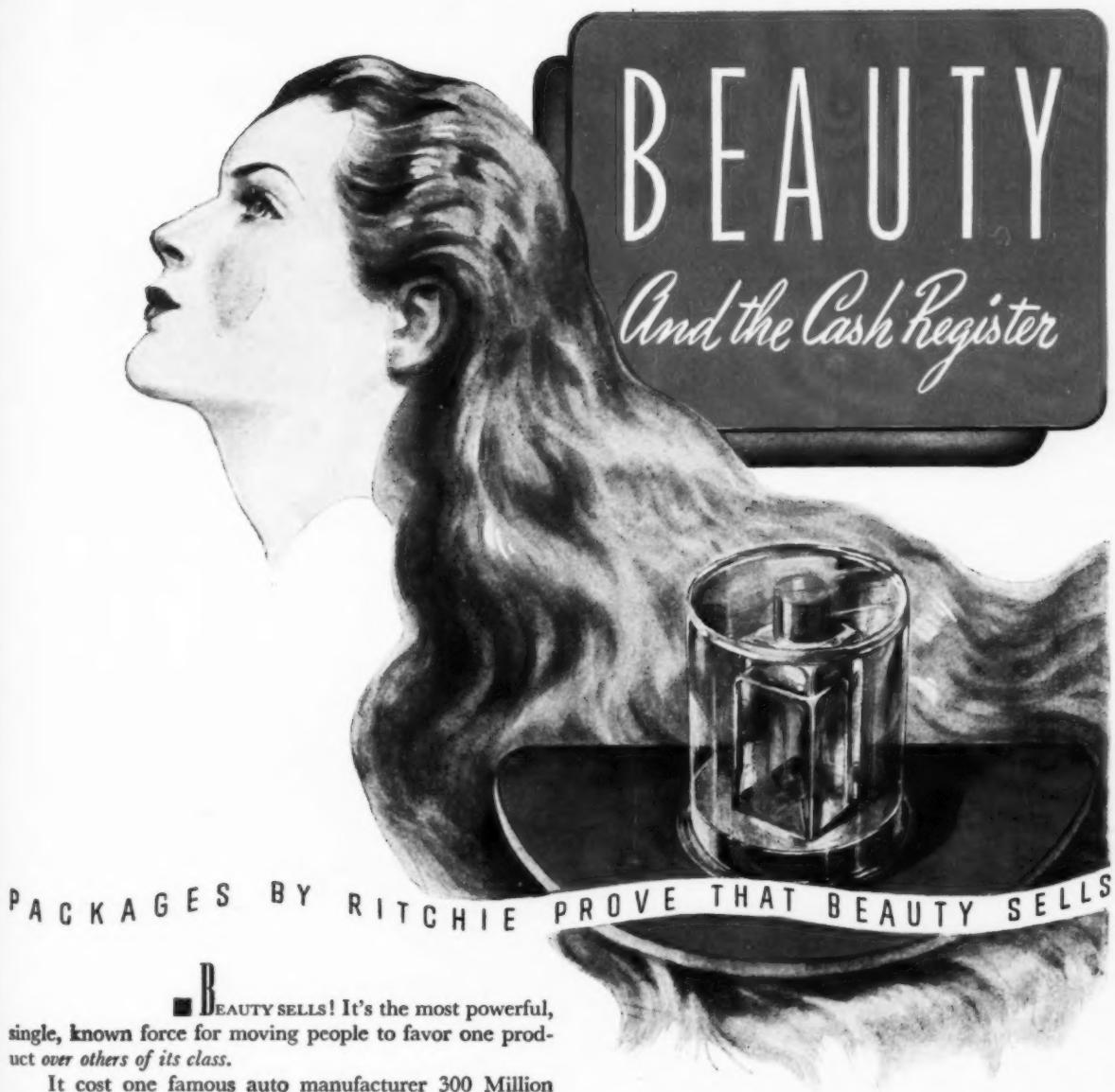
- Unbreakable Black Plastic Body
- Steel Reinforced Bracket
- Fastens to Wall with Steel Back Plate
- Fills from Top
- Duraglas Globe — toughest and strongest
- Globe Cemented to Body
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No Other 'Push Up' Dispenser has all of these Exclusive Features!

Orders Subject  
to Allotment

Write for Prices and  
Quantity Discounts

  
**Bobrick**  
MANUFACTURING CORPORATION  
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PACKAGES BY RITCHIE PROVE THAT BEAUTY SELLS

**B**EAUTY SELLS! It's the most powerful, single, known force for moving people to favor one product over others of its class.

It cost one famous auto manufacturer 300 Million Dollars when he underestimated the public's love of beauty and a competitor did not. He had to scrap his old model, close his plants, call in designers, and produce a beautiful, colorful car to regain his market.

Beauty sells!

It influences peoples' choices in *everything*—from motor cars to mates. Without design, without gleaming metal and white enamel, who could sell a kitchen stove? Streamlined trains get the extra fares. Color—in kitchen and bathroom—sells plumbing fixtures, rents apartments, sells houses. In one year, the people purchase 900 Million Dollars worth of cut flowers, One Billion Four Hundred Million packages of cosmetics. They want beauty. Spend big money for it.

That's why beauty in *packaging* pays.

That's why, in every package by Ritchie, whether it contains a delicately scented powder, or parts for a steering wheel assembly—you will always find, in its lines, in its proportions, color or general design, a strong eye-pleasing quality—elements of beauty.

#### HOW TO GET A PACKAGE THAT SELLS

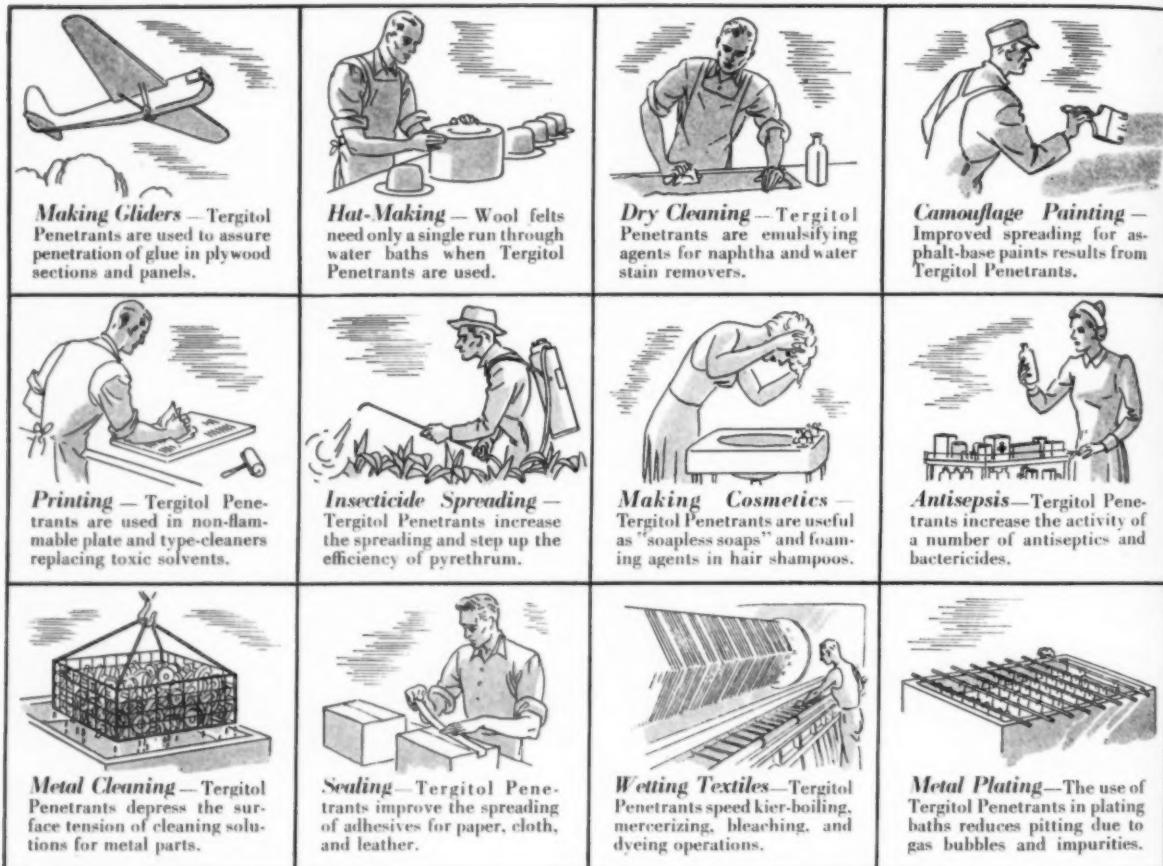
Let Ritchie design a package for you and it will have beauty *more than skin deep*. It will have the right material and structure for its job. It will be practical, convenient to use, easy to handle, to stock and display. It will proclaim your product-identity. And Ritchie's expanded, war-developed facilities for volume production assure its low cost. Let Ritchie demonstrate how you can get a better selling package. Write us today.

w. c. **Ritchie**  
AND COMPANY  
8882 BALTIMORE AVENUE • CHICAGO 17

Set-Up Paper Boxes • Fibre Cans • Transparent Packages  
NEW YORK • DETROIT • LOS ANGELES • ST. LOUIS • MINNEAPOLIS

# Tergitol Penetrants Do These Jobs Well

## *-Have You Tried Them in Your Processes?*



● Tergitol Penetrants are powerful wetting, penetrating, and emulsifying agents even at high dilutions. They are stable in the presence of acids, alkalies, salts, and hard water. These sulphates of higher synthetic alcohols are made entirely from domestic raw materials. Our technical representative can help you pick the particular Tergitol Penetrant best suited for your process.

*For information concerning the use of Tergitol Penetrants write:*

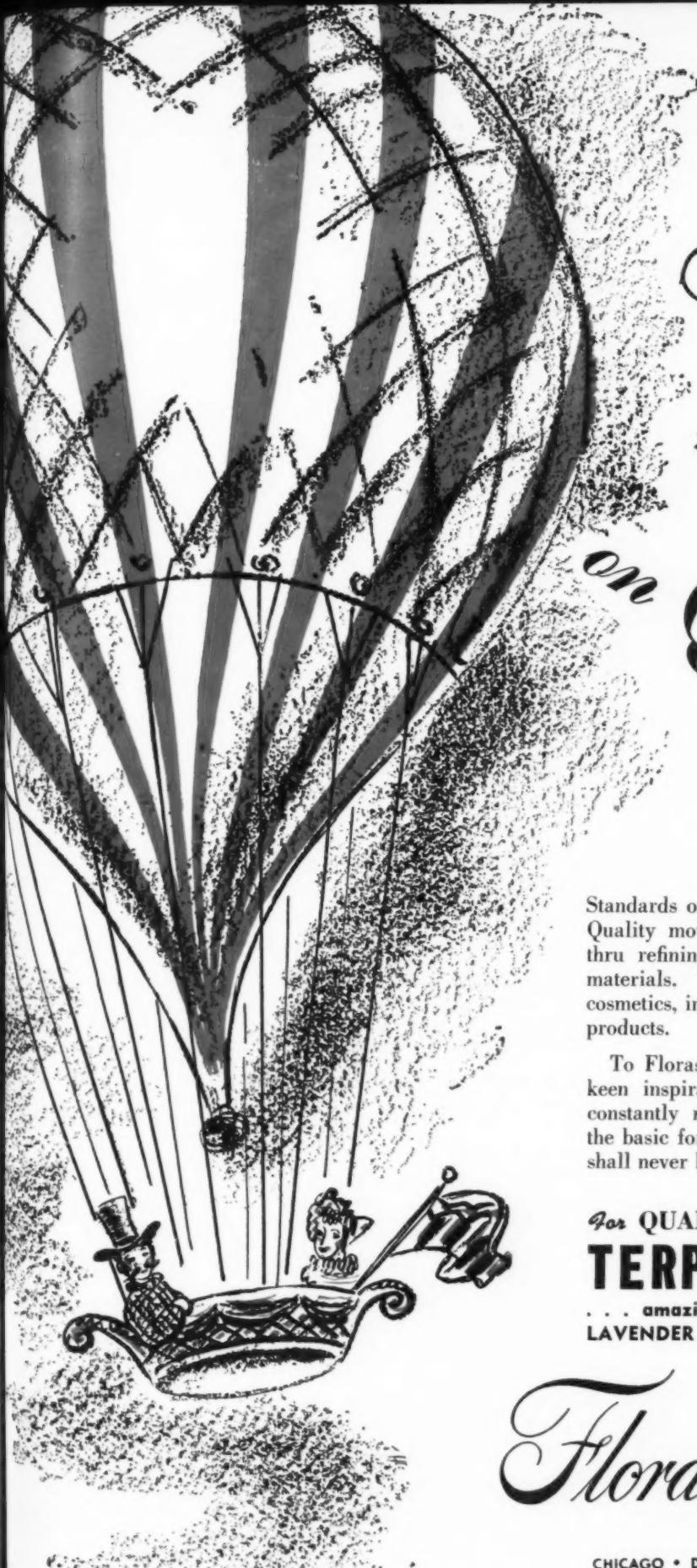
**CARBIDE AND CARBON CHEMICALS CORPORATION**

*Unit of Union Carbide and Carbon Corporation*

30 East 12nd Street      UCC      New York 17, N. Y.

"Tergitol" is a registered trade-mark of Carbide and Carbon Chemicals Corporation.

**PRODUCERS OF SYNTHETIC ORGANIC CHEMICALS**



Standards of quality change gradually, definitely. Quality moves upward . . . thru research . . . thru refining and re-defining of ingredients and materials. In the manufacture of perfumes and cosmetics, improving standards make for improved products.

To Florasynth this is a constant challenge. A keen inspiration that spurs its personnel to be constantly more exacting . . . to reach beyond the basic formula . . . to recognize that one factor shall never be limited . . . **QUALITY**.

For **QUALITY Performance** . . . *Florasynth's*  
**TERPINYL ACETATE**

. . . amazingly successful replacement for fine  
LAVENDER and BERGAMOT in choicest products.

**Florasynth** LABORATORIES, INC.  
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NEW ORLEANS • ST. LOUIS • SAN FRANCISCO • SEATTLE

Florasynth Labs. (Canada) Ltd. — Montreal • Toronto • Vancouver • Winnipeg  
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# "BEAMAX" DRIES TO A LUSTRE LIQUID WAX

## ADVANTAGES:

- Simple to Apply
- Dries quickly
- Requires No Polishing
- No Odor
- Long Wearing
- Easily maintained by dry or damp mopping
- For all Floors
- Water Resistant when dry
- Freezing Does Not Break the Emulsion
- Will Not Solidify in Storage
- Uniform Quality
- Surface Adherence
- Removability
- Coverage
- Stable Emulsion

Meets Specification P-W-151a.

THE DAVIES-YOUNG SOAP CO.—DAYTON, OHIO

THE MOST PRECIOUS PIECE  
 OF PAPER IN THE WORLD



It's Valley Forge and Gettysburg and Pearl Harbor. It's the Constitution and the Bill of Rights. It's America's History written with the blood of its builders and heroes . . . their dreams and faith and sacrifice. It's a saga of Free men worthy of freedom because ever determined to fight for it. It's our reverence to those who give

their lives for the common good. It's the unity of the past and the present pledging freedom for the souls of children and for their future. It's the despair of cowards and tyrants and the passport of men of good will. It's our honor, our glory and our Victory. It's the United States War Bond.

*Back the attack...Buy more than before*

FELTON  
 CHEMICAL  
 COMPANY, INC.

599 JOHNSON AVENUE, BKLYN., N. Y. • BRANCHES IN PRINCIPAL CITIES • MFRS. OF AROMATIC CHEMICALS, ESSENTIAL OILS & PERFUMES

# YOUR 8.5 BILLION DOLLAR Mass Feeding Mass Housing MARKET

*A BIG Market of BIG Consumers*

THE readers of INSTITUTIONS Magazine represent a post-war market of huge proportions . . . an 8.5 billion dollar post-war market that is yours today! The readers of INSTITUTIONS Magazine are the big consumer buyers of all types of mass housing and mass feeding products . . . the buyers by whom this 8.5 billion dollars will be spent. The readers of INSTITUTIONS Magazine will expend a large percentage of this figure for maintenance supplies of all kinds.



Consult Your Advertising Agency

To determine the size and extent of the post-war market in the institutional field, INSTITUTIONS Magazine conducted a survey among over 50,000 hotels, hospitals, schools, colleges, restaurants and other types of institutions. The findings of this survey—which have been presented in this booklet—are of special interest to all manufacturers now serving or planning to serve this field. To obtain details on this survey, or for information on the application of your products to the mass feeding and mass housing market, consult your advertising agency or write direct.

Each month INSTITUTIONS Magazine reaches:

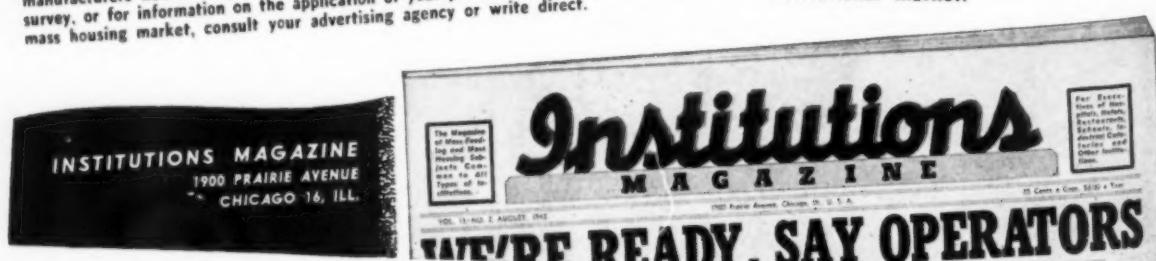
- HOTELS
- HOSPITALS
- SCHOOLS
- RESTAURANTS
- INDUSTRIAL CAFETERIAS
- COLLEGES
- PUBLIC INSTITUTIONS
- YMCA's and YWCA's
- RAILWAY SYSTEMS
- STEAMSHIP LINES
- PUBLIC BUILDINGS
- OTHER INSTITUTIONS

and . . . for the duration of the war—in addition to its regular circulation, INSTITUTIONS Magazine is being sent to buyers and specifiers of mass housing and mass feeding products for those directly engaged in the war effort.

These are the men and women who depend upon INSTITUTIONS Magazine for authoritative assistance on their immediate and post-war problems . . . for the type of product information they must have in directing their planning and buying on a practical and sound basis.

Manufacturers of soaps, disinfectants, insecticides, floor treatment materials, cleaning compounds and other similar products who are now advertising to this huge market through INSTITUTIONS Magazine are using the most effective and most economical means of approaching these big consumer buyers. These manufacturers are not only enjoying the immediate benefits of this market . . . they are also building for themselves a preferred position among institutional managements in the post-war period.

INSTITUTIONS Magazine is the only publication through which you can reach all related divisions of the institutional field. If your present or contemplated products have an application to this field, your advertising messages in the columns of INSTITUTIONS Magazine will gain for them the kind of acceptance they must have to share in the 8.5 billion dollar institutional market.



# MODERN SOAPS

Require the Best in Soapmaking and  
Detergent Chemicals



TODAY'S cleansing requirements . . . for either domestic or industrial use . . . demand cleansers that are efficient and safe—thoroughly in keeping with improved washing methods.

As a long-established manufacturer of soap-making chemicals, General Chemical Company offers the following products which assist soap and detergent compound manufacturers in making such soaps and cleansers:

**TETRASODIUM PYROPHOSPHATE** . . . Steps up the cleansing action of soaps, helps build more abundant suds, washes white clothes shades whiter—colored clothes more nearly their true color. Effective agent for keeping iron salts in solution, prevents formation of "rings" and helps to eliminate scale formation in machine washers. Addition of TSPP allows an increase in percentage of builders and at the same time increases detergent efficiency of the soap for a given tonnage. TSPP, Anhydrous is for the soap manufacturer. TSPP, Diamond Grade, is particularly suited for incorporation into detergent mixtures.

**SODIUM SILICATE SOLUTION** . . . Available in a number of grades and strengths ranging from 38° to 52° Baume. Shipped in steel drums of 55 gals., and tank cars. Also shipped in tank trucks in certain metropolitan areas.

**TRISODIUM PHOSPHATE** . . . General Chemical Trisodium Phosphate emulsifies oils and greases, removes dirt quickly and thoroughly. It is a good water softener and soap builder, and is extremely economical. Available in four grade sizes: fine, standard, medium, coarse.

**SODIUM METASILICATE** . . . An unusually effective "wetting agent." It has a high pH, is a "buffered cleanser," has good bactericidal properties, suspends dirt, softens water.

## SULFURIC ACID

General Chemical Company, one of the oldest and largest producers, offers Sulfuric Acid in all grades and of exceptional quality due to careful control maintained throughout the manufacturing process.

## MURIATIC ACID

General Chemical Company commands a foremost position on this product and is prepared to offer consumers all grades from Standard to the C. P. grade.

## GENERAL CHEMICAL COMPANY

40 RECTOR STREET, NEW YORK 6, N. Y.

Technical Service Offices: Atlanta • Baltimore • Boston • Bridgeport (Conn.) • Buffalo  
Charlotte (N. C.) • Chicago • Cleveland • Denver • Detroit • Houston • Kansas City • Milwaukee  
Minneapolis • New York • Philadelphia • Pittsburgh • Providence (R. I.) • St. Louis • Utica (N. Y.)

Pacific Coast Technical Service Offices:

Los Angeles • San Francisco • Seattle, Wenatchee and Yakima (Wash.)  
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### OTHER GENERAL CHEMICAL PRODUCTS FOR THE SOAP INDUSTRY

SODIUM SULFITE      SODIUM BISULFITE

SODIUM HYPOSULFITE

ALUMINUM SULFATE      ALUMINUM CHLORIDE

ACETIC ACID

DISODIUM PHOSPHATE      SODIUM SULFATE



## CITRONELLA OIL ARTIFICIAL

## SPANISH ROSEMARY

## SPANISH SPIKE LAVENDER

## ARTIFICIAL SASSAFRASS

For many years much of the research and development work of our laboratory has been devoted to the perfumery problems of the soap and sanitary chemicals industry. As a result we have been able to supply synthetic products successfully to relieve shortages caused by war conditions. Why not consult us regarding your problems? Samples upon request.

### ESSENTIAL OILS

#### and SYNTHETICS

BERGAMOT  
CASSIA  
CEDARWOOD  
CEDARLEAF  
CLOVES  
GERANIUM  
LAVENDER  
THYME  
WINTERGREEN  
PETITGRAIN  
  
BENZYL ACETATE  
TERPINEOL  
AMYL SALICYLATE  
ANETHOLE  
CINNAMIC ALDEHYDE  
CITRONELLOL  
EUGENOL  
ISOEUGENOL  
HELIOTROPINE  
ISOBORNYL ACETATE  
LINALYL ACETATE  
IONONES  
MUSKS  
TERPINYL ACETATE

### PERFUME BASES

ROSE  
LILAC  
JASMIN  
LAVENDER  
CARNATION  
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# STANDARD SYNTHETICS, INC.

30 WEST 26th STREET

NEW YORK 10, N. Y.

BRANCHES AT  
CHICAGO

SAN FRANCISCO

KANSAS CITY, MO.



## The flags we fly

*Proudly we hail* our country's flag, flying free over all—gratefully we acknowledge the privilege of displaying the four lesser flags shown above. We are grateful that our growth has taken place in a country where we were free to acquire the skills which later resulted in the awarding to our Baltimore plant of the Army-Navy "E"—and to our plant in Washburn, Maine, the Achievement "A". We are grateful that we live in a country whose standard of living permits us to help in this war with our savings, as symbolized by the Minute Man flag. And our deepest gratitude we hold for the 135 McCormick men and women whose Service Flag will fly until that great day when they come home. May it be soon!



**McCORMICK & CO. INC. BALTIMORE, MD.**  
*For the Armed Forces ★ SPICES • EXTRACTS • TEAS • MUSTARDS  
 DEHYDRATED POTATOES • INSECTICIDES • ANTI-TYPHUS POWDER*



Captain Alfred W. Ireland, an outstanding member of the McCormick sales force prior to his commissioning in the Paratroops in November, 1941, wrote us the following letter recently. One of the prominent officers in charge of the first paratroopers to land in Sicily in advance of the invasion, Captain Ireland wears the Purple Heart and Silver Star for gallantry in that action. His words tell our story far better than we could tell it . . .

## *"How it feels TO BE DECORATED by Uncle Sam"*

May 8, 1944—". . . You spoke in your letter of 'taking it'—well, I have this to say on behalf of the entire '135-Gang' (McCormick men and women in service)—we out here can take it, sure, but we are, in fact, only your front-line salesmen, selling and fighting for what you folks live for, work for, and what we all believe in.

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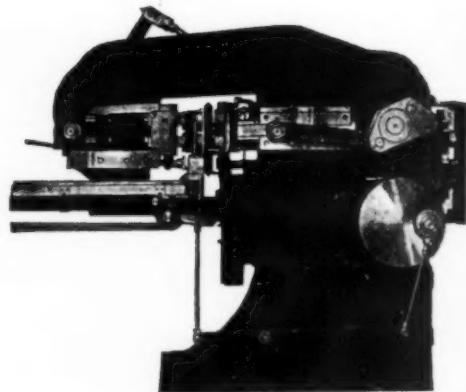
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CINCINNATI, OHIO

## AS THE EDITOR SEES IT

LACK of manpower in soap factories and not the restrictions implied by quota figures is tending to hold down soap output. This latter is particularly true in a number of smaller soap plants in both the east and mid-west, particular plants located in critical labor areas. Some plants report that they are operating with one-half or less of their normal number of factory employes and under such conditions cannot produce enough soap to use their maximum quota of oils and fats. Of what avail is a quota figure of 110 per cent for a plant producing industrial soaps if only enough kettles can be manned to turn out eighty or ninety per cent?



FROM the threat of rationing which hovered over the soap industry a year ago, due almost wholly to the reduced oil and fat supply, the situation has cleared up to the point where soap *production* at present comes fairly close to fulfilling most normal needs. A larger soap output could be used today, but in contrast to conditions of a year ago, there has been a wide improvement. But no sooner is the production situation cleared up to a considerable degree than a threat to soap *distribution* arises to plague the industry,—a threat which might tighten the soap supply in distributing channels to a point where a resumption of hoarding and "runs" on retailers could well invite rationing again to enter the scene.

In plain words, the soap industry cannot cut its use of shipping containers to eighty per cent of 1942 unless the amount of soap shipped is materially reduced. Packaging and shipping experts with long experience

in the soap industry, who have been studying this problem for the past three years, are unanimously emphatic in their opinions that in view of the cuts already made, a further reduction as required under WPB Order L-317 can only mean an equivalent tonnage of soap failing to reach the consumer. A buying stampede and subsequent rationing could readily grow out of such a situation.



SEVERAL smaller soapers have recently mentioned to us the difficulty which they are encountering in getting rid of their crude glycerine. One has inquired as to where he can sell his eighty per cent crude. We have answered him that at the moment we do not know which, if any, refiner would be interested in buying the crude. As far as we can find out, there is more crude glycerine right now than there are facilities to refine it. Most soapers are reputed to have so much of their own crude that again talk is heard of running some lyes into the sewer for lack of tank room, talk which is reminiscent of those periods in glycerine history when the price was so low, refining did not pay.

On those smaller soapers and fat splitters who have for over a year past been producing every ounce of glycerine possible in accordance with government demands, the present flood is backing up. The larger units with full glycerine refining facilities can at least handle most of their own output of crude, but those smaller firms who depend on somebody else to refine their crude are distinctly "behind the eight ball" under FDO 33. At least had the glycerine re-

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mained in the soap, it could have been sold. But separated as crude, there is no demand at or near the ceiling price.

Possibly the present situation in glycerine is only temporary and another month or two may see the channels cleared and accumulations reduced. But in the meantime, those soapers who are stuck with unsold crude, feel somewhat bitter about the matter, blaming WFA for permitting stocks to grow to the greatest size in history before opening the flood gates. The soapers maintain that WFA waited too long before removing restrictions under FDO 34. The answer of WFA is that first, they had to be sure that there would be enough glycerine for war purposes and second, there is no law against selling under the ceiling price.



**T**HAT much thinking and planning for post-war development of markets for synthetic detergents is taking place appears evident from information in and about the soap industry. Increased production of synthetic organic detergents as a direct result of war demand means that this larger plant capacity will be available for the post-war manufacture of household and industrial products based on these newer detergents. To the soap industry, this potential development presents a problem in competition of which the industry has been aware for several years and which has been discussed both here and elsewhere on a number of occasions.

The outlook in the post-war manufacture of synthetic organic detergents poses a number of questions for every soaper, large or small. Most of the larger soap manufacturers, we believe, have either found or are now seeking the answers. The majority, we think, have decided that if the dictates of product competition force them into marketing non-soap detergents and cleaners, they will not hesitate to enter the field.

Soapers generally, we feel are quite determined that products used for washing the body and the maintenance of general cleanliness shall be manufactured, branded and marketed by the soap industry whether they be soaps or something to replace soap. They intend to keep the business of supplying the market with the products for cleanliness even if it means revolutionary change in the character of the industry over the next decade, and will resist strongly attempts of other industries to take over a market which has been theirs for so many years.

In the past, the soap industry has met and turned back product competition mostly because it could sell at a much lower price. Conversely, high price has been the chief obstacle to broadening the sale of synthetic detergent products over the past ten years. But with the termination of the war and a marked increase in production, costs of synthetic organic materials used in detergency will undoubtedly be greatly reduced. At or near an even price, soap stands at a disadvantage in every hard water market of the country. Even with the wide improvements which have been made in laundry soaps over the past five years, the essential weaknesses remain.

Just as the automobile forced the carriage manufacturer either to change the character of his business or else quit the field, synthetic detergents could conceivably do this very thing to the soap industry. Possibly the analogy is a trifle premature at this time. Nevertheless, it does picture what may be in the cards,—a case of adaptation to new conditions or eventually dropping out of the parade. By those who have given but little attention to the matter,—and who may be blinded to a degree by the present active state of demand for their soap products,—some deep and careful thought is not amiss right now. The war has speeded developments in synthetic detergent production to the point where the attendant post-war soap marketing problems are beginning already to crystallize on the doorstep of every soaper. And he who ignores the signs may regret it.

# Pros and Cons of TALL OIL IN SOAP

By Andreas Treffler



RESTRICTIONS on the use of oils, fats and fatty acids, shortages even in the supply of foots fatty acids, and higher prices for all fat stocks, have within the past year induced many soap makers to substitute part of their fat kettle charge with low priced tall oils. Being forced to make these formula revisions hurriedly and without adequate experimentation which should be preliminary to any such change in raw material, it is only natural that some difficulties have been encountered. The reactions of different soap makers to the use of tall oils have accordingly varied in keeping with individual experiences. Some believe that this material makes an excellent addition to many soap formulas, while others are not so optimistic in their views.

In order to evaluate tall oil in comparison with other fats and to do this without any preconceived bias in one direction or another, a careful consideration of its chemical nature, composition, and colloidal properties in soap solutions is essential. The refined tall oils on the market today contain about 50 per cent fatty acids, oleic and linoleic, 40 per cent rosin acids, abietic acids and other acids with a molecule above C<sub>18</sub>, 10 per cent sterols such as phytosterol (about 30 carbon atoms), higher alcohols and other oxidized substances. As has been pointed out previously, the water solubility of soaps made from fatty acid molecules above C<sub>18</sub> decreases with the increase in carbon atoms in the chain, and the affinity for water-insoluble mineral oils, metallic soaps and hydrocarbons increases correspondingly. The interfacial tension among the components of tall oil

in the direction toward mineral oil is lowered to such a degree that a continuous bridge or coupling in relation to the water solubility of their soap solutions and the water insolubility of mineral oil has been formed. The high amount of unsaturated groups in tall oil and the low titre increases the affinity toward oil, water insoluble hydrocarbons and aromatic compounds. It can be understood, therefore, why the comparatively high proportion of unsaponifiable matter in tall oil soaps does not separate out, no matter how dilute.

Oxidation products of mineral oils such as naphthenic acids have similar characteristics. Rosin also resembles in its behavior the fraction of tall oil containing rosin acids, sterols and unsaponifiable matter. The addition of rosin to soap increases its affinity toward oil and unsaponifiable matter and rosin soaps are noted therefore for their clarity and transparency. The rosin acids in tall oil as soaps have such low water solubility, that no permanent lather is obtained without the addition of an effective water softener, such as tetrasodium pyrophosphate. The formation of water insoluble calcium, magnesium and iron soaps in hard water disturbs the whole equilibrium of solubility. Any excess of added rosin acid soaps no longer peptizes these metallic soaps, the water insolubility is predominant and the metallic soaps take up the rosin soaps, breaking their lather. An excess of a high grade emulsifying agent with a molecule of C<sub>18</sub>, like potassium or sodium oleate is necessary to accomplish this change in the equilibrium of solubility.

The determination of the detergent value of rosin acid soaps by

the water hardness titration test and actual wash testing have proven that at least two-thirds of the fatty acid content should be a high grade fat of the C<sub>18</sub> series and only one-third should consist of rosin acids. Substituting 10 to 20% of the C<sub>18</sub> soaps with coconut oil soap, known for its high solubility in water, adds to the solubility of the rosin acid soaps in such a blend. Tall oils themselves contain 50% high grade fatty acid, making the calculation here somewhat different. Fifty parts of C<sub>18</sub> fatty acids added to 100 parts of refined tall oil give a satisfying result in the formulation of the different soaps.

The detergent value of such formulas does not come up to the detergent value of straight oleic acid soaps, but as such soaps have a higher oil affinity they will prove their efficiency whenever oil, grease, carbon, dyestuffs and other high molecular chemical compounds have to be emulsified, or removed by suspension. A soap with a high oil affinity proves superior in actual practice for the removal of oil and greases covering inaccessible grooves in machine parts and floors. High-lathering qualities are not always wanted in fast industrial cleaning. Nor does the odor problem offer any insuperable obstacle.

By blending tall oils with other fats which neutralize the disagreeable tall oil odor, or by proper perfuming, the odor problem can be readily overcome. Rosin and linseed oil with its high amount of unsaturated groups in its molecules and therefore its high pliability and reacting ability, cover the odor of tall oils. The presence of abietic acid, an oxygen acceptor,

tends to protect linseed oil soaps from oxidation and rancidity.

**F**ORMULAS of 40 and 45% vegetable oil soaps, which contain tall oil and other fats, not subjected to restrictions, and give practically odorless blends in soap have the composition shown in Table 1 below.

A fat containing 33.5% rosin acids and 66.5% high grade fats of the C<sub>18</sub> series has a detergent value of 7.0—7.5 ccm. Increasing the 33.5% rosin acids to 36.2% deteriorates the detergent value about 50%. A fat mixture containing 60% "Neofat," 25% refined tall oil, and 15% coconut oil fatty acids has a detergent value of about 6 ccm, which is the same as that of a straight oleic acid soap. The 15% rosin acids in this mixture are improved by the presence of 15% coconut oil fatty acids and both are raised to the level of C<sub>18</sub> fatty acids. The small percentage of linseed oil in the above formula permits smoother boiling and allows for adjusting in the finishing operation.

The rosin acids present besides the abietic acid have a very low saponification value, (some as low as 140) have an oily consistency at room temperature, and are found in the unsaponified matter of above mentioned formulas, provided the soap is kept subneutral. Their high soap molecules are so highly hydrolyzed, that upon cooling they furnish the necessary potassium hydroxide for saponifying the neutral linseed oil, an unusual procedure. Their high affinity toward oil also adds to smoother boiling of the soap in the kettle by increasing the emulsification.

A high grade of hydrolyzation is a general indication of a high soap

molecule and is expressed by a higher pH of a neutral soap solution. The lower the pH of neutral rosin acid soaps, the more value they have as soaps; the higher the pH is, the greater is their oil affinity. Some of their electrometric pH readings are given in the following table No. 2.

Soaps from	pH of a 1% soap solution	pH of a 10% soap solution
Abietic acid .....	9.9	10.3
Rosin .....	10.5	10.8
Rosin acids with low saponification value .....	10.8	11.0

The high hydrolyzation of rosin acid soaps makes it advisable to adjust the soap subneutral with a pH of about 10.2 on a 1% solution. The percentage of free fatty acid can range from 0.2—2.0% and in no case will the soap show any cloudiness upon standing. The low titre of tall oils keeps their 65-70% potassium or sodium soaps in a semi-fluid paste phase at room temperature even if they are mixed half and half with other vegetable oils. By using a powerful mixer such paste soaps can be stirred very simply into soda ash or mixture of soda ash and tetrasodium pyrophosphate, and a fine soap powder with 20% ash soap content can be obtained.

Rosin acid soaps have an increased sensitivity toward electrolytes in hard water and are salted out. Thus a water conditioner like tetrasodium pyrophosphate or metasilicate should be added in soap powder mixtures, especially if they are for use in laundries. The addition of other alkalies in combination with heat also improves the solubility and the detergent value of rosin acid soaps as shown in Table 3. Due to their oil affinity, they are preferred in cleaning establishments, where oily and

**Table 3**  
Effect of addition of alkalis and application of heat in improving the detergent values of tall oil soaps. The results were obtained by titrating 58.3 cc of water (1.6 U. S. grains harness) with a 1 per cent unrefined tall oil soap containing 0.14 per cent T.S.P.P. at 75° and 150° F to permanent lather (lasting 5 minutes).

	At 75° F	At 150° F
Adding no additional alkali	6.8 cc	4.6 cc
Adding 0.5 gm. caustic soda	4.6	3.3
Adding 0.5 gm. tri sodium phosphate	4.6	3.3
Adding 0.5 gm. dry metasilicate	4.5	3.2
Adding 0.5 gm. soda ash	4.3	3.2
Adding 0.5 gm. borax	3.4	3.1

greasy rags and metal surfaces are cleaned at high temperature. As pine oil and its components cover the odor of tall oil soaps, pine oil scrub soaps and pine oil disinfectants can be made almost entirely from tall oils. In scrub soaps some oleic or a low titre vegetable oil fatty acid should be used with the tall oil if a low soap content and a viscous consistency is desired.

Tall oil soaps at 35% are still liquid, turn at 45 to 50% into a stiff paste and semiliquify again at 65 to 70%. Liquid toilet soaps now made mostly from low titre vegetable oils and highly refined tall oils, like the "Neofats" are too viscous at 20 to 25%, but blending with tall oil soaps improves their viscosity considerably. Bleaching with 1/2 to 1% concentrated hydrogen peroxide at a temperature of 80-100 degrees F and under stirring improves the color to the color shade of refined oils. The dark colored rosin acid soaps and the pigments are oxidized first and prevent the other unsaturated molecules from oxidation. This process does not affect detergent value adversely, and no other bad results have been noted. Light colored vegetable oil soaps can also be produced by bleaching the tall oil soap as a 30-35 per cent liquid to any desired shade. This operation can be carried out in the main soap kettle on the day preceding the final soap

(Turn to Page 63)

Composition of K-vegetable oil soap	40 %	45 %
Neofat* (90% oleic and linoleic acid) .....	12.5%	14.0%
Tall oil, refined .....	12.9%	11.7%
Rosin .....	4.1%	9.0%
Linseed oil .....	5.8%	5.1%
45% KOH .....	14.2%	15.4%
Perfume .....	0.1%	0.1%
Water .....	balance	balance
Detergent value of the 1% soap solution, obtained by titrating 58.3 ccm. water (5.4 U. S. grain) hardness to a permanent lather (lasting 5 minutes) .....	7.0-7.5 ccm.	10.0-11.0 ccm.
Percentage of rosin acids in fats .....	33.5%	36.2%

\*Armour & Co.

# The Prevention of OCCUPATIONAL DERMATITIS

*Louis Schwartz*

U. S. Public Health Service

**T**HE prevention and control of industrial dermatitis may be divided into three parts.

1. Prevention of dermatitis in factories where basic chemicals are manufactured.
2. Prevention of dermatitis in factories where basic chemicals purchased from the manufacturers are processed into materials to be sold to the public.
3. Prevention of dermatitis among the users of the manufactured materials.

There must be close cooperation and interchange of information among all parties concerned in order to obtain the best results in the prevention of industrial dermatitis and dermatitis among the public from chemicals and manufactured products. The object in the prevention of industrial and other forms of contact dermatitis is to keep the irritant and the subjects apart, or if this is not entirely possible, then to keep the time and degree of contact at a minimum.

In factories making basic chemicals, all processes in which irritant chemicals are made or packaged, should if possible, be totally enclosed. If this is not possible, then all such places where there are irritants, and total enclosure is not possible, should be exhausted by properly designed suction vents. The floors, walls, windows, and ceiling of these work rooms should be frequently cleaned in such a manner as to create the least amount of dust and entail the minimum contact of the cleaners and others in the rooms with the irritants. Machinery should also be frequently cleaned so that workers have

minimum contact with potentially irritant chemicals. Machinery should be so devised that irritant chemicals may be mechanically handled in such a manner as to entail the minimum degree of personal contact and the safe handling of irritant chemicals should be developed, taught and enforced.

These preventive measures all come under the heading of plant sanitation. The author will not go into detail as to the installation of totally enclosed manufacturing processes, nor into the approved methods of general and local ventilating devices designed to draw irritant fumes, dusts and liquids away from the worker. These are in the province of the industrial hygiene engineer.

The province of the industrial dermatologist includes the devising of methods for personal protection from irritants. This should begin with the pre-employment or what is a better term, pre-placement examination.

Applicants for jobs who have skin eruptions should not be placed in occupations where there is an unavoidable skin hazard; for instance, they should not be placed where they must come in contact with such well known skin irritants and sensitizers as tetryl, TNT, formaldehyde, alkaline bichromates, volatile solvents, insecticides, antiseptics, and others too numerous to mention.

In this connection it should be emphasized that pre-employment patch testing for the purpose of weeding out those who are sensitive to the chemicals with which they are to work is not advisable, because most workers are not sensitive to the sensitizing chemicals with which they are to work unless they have had previous contact with

them. They become sensitized after several days of working. Therefore, patch tests with sensitizing chemicals performed before the worker has had contact with them will show no reactions and may be the means of sensitizing the worker. If the worker has been employed previously in a similar occupation then a history of dermatitis caused by the chemicals he encounters may be elicited from him.

Young workers frequently have acne vulgaris and the pre-placement examinations should take note of the site and extent of these lesions, especially in applicants for work with chemicals which are known to produce acne-like lesions. Such chemicals are coal tar and its heavy oils, pitch, solid chlorinated hydrocarbons, crude petroleum, cutting oils and lubricants derived from petroleum.

The presence of active mycotic infections on the feet and other parts of the body should be noted. If the applicants are otherwise employable, the fungus infections should be treated while they are working, and the parts affected should be properly protected from the action of occupational irritants. If there are shower baths in the factory, care should be taken to prevent the spread of fungus infections of the feet. This can be done by providing each worker with wooden-soled bathing slippers, and he should be instructed to wear them when going to the shower bath, while he is under the shower, and when coming from it. It is not sufficient to have antiseptic solutions in troughs into which the workers are required to step after they have taken their showers, because in general the feet are not soaked long enough for the fungi to be killed, but even if they

\* From Dermatoses Section, Industrial Hygiene Division, Bureau of State Services. Presented before the meeting of the National Association of Insecticide & Disinfectant Manufacturers, Inc., Chicago, June 12, 1944.

were, walking barefooted from the troughs to the lockers allows plenty of opportunity to pick up or spread the infection. The workers should also be instructed to dry their feet thoroughly and dust powder between their toes before putting on their stockings. The fungi do not grow in dry media. There are many powders on the market for this purpose, and most of them contain some antiseptic, such as oxygen in the form of perborates and peroxides and other fungicidal chemicals.

Applicants who have dry skins should not be placed at jobs where they must immerse their hands in fluids that defat the skin, such as strong soaps, alkaline solutions, or the volatile solvents.

### Cleanliness

CLEANLINESS is by far the most important single measure for the prevention of industrial dermatoses. By cleanliness, we mean not only cleanliness of the person, but cleanliness of the room, the machines, and the clothes. Floors, walls, and ceilings of rooms in which there are industrial irritants should be wet-cleaned daily. Machines and tools on which industrial irritants deposit should also be cleaned daily. Adequate washing facilities should be provided for workers handling industrial skin irritants. Workers whose person and clothes become soiled with industrial skin irritants should be compelled to take supervised shower baths after work, before leaving the factory. It may be necessary to have a double set of locker rooms to make sure that workers change to clean clothes before going home. Care must be exercised that the soaps and other cleansers used by workers to remove dirt, dyes, oils, etc., will not themselves cause dermatitis. Workers who become soiled with oils, greases, and dyes, are likely to use the most available and most rapid-acting solvent to clean the skin. They do not stop to consider the irritant action of the cleanser. Many cases of dermatitis among workers have been caused by irritant cleansers used to remove comparatively non-irritant soil. The safety engineers should see that the workers use only

such cleansers as will not act as skin irritants.

An industrial cleanser for the normal skin should have the following qualities:<sup>1</sup>

1. It should remove soil, fats, and oils without harming the skin.
2. It should be freely soluble in hard, soft, cold, or hot water.
3. It should not contain harsh abrasives or irritant scrubbers.
4. It should be handy to use in cake form, or should flow easily through soap dispensers if in granulated, powder, or liquid form.
5. It should not deteriorate or become insect-infested.
6. It should not clog the plumbing.

For workers so soiled that excessive scrubbing with soap is necessary to clean the skin, it may be better to add a wetting agent to the cleanser, or a small amount of alkali, such as trisodium phosphate, or an organic solvent, such as naphtha. Whenever such reinforced cleansers are used, it is advisable to supply the worker with an emollient cream to be rubbed into the skin after washing so as to replace the fat removed by the strong cleanser.

Workers who have dermatitis, or thin, dry defatted skins, should not use the ordinary industrial cleansers. It is better for them to use one of the superfatted soapless cleansers, the pH of which is 7 or less. Such a cleanser may consist of a neutral sulfonated fatty oil,  $\frac{1}{2}$  per cent of the synthetic wetting agents, and  $2\frac{1}{2}$  per cent of lanolin.

### Protective Clothing

PROPERLY designed protective clothing<sup>2</sup> is of great value in the prevention of occupational dermatitis. Closely woven cotton fabrics that are more or less impervious to dust are frequently used to protect workers from such irritant dusts as sodium carbonate, calcium cyanamide, arsenicals, etc. To give efficient protection, such fabrics must be frequently cleaned. Each worker should have at least two sets of work clothes so that he will have a clean set to wear while the other is being laundered. It has been found best to have the management of the plant undertake the laundering of such clothes because the worker himself is often loathe to spend the money. In one plant where

such was the practice, it was estimated that it cost the plant about 10 cents per day to furnish clean work clothes for each worker daily.

Impervious materials, such as rubber, offer better protection against dusts than do fabrics, and they also give protection against irritant liquids. Rubber gloves, aprons, boots, and sleeves, are impervious to water-soluble irritants. Rubber, however, soon deteriorates when exposed to alkalis, petroleum distillates, or the chloro-hydrocarbon solvents. For this reason it is rather expensive to use in occupations in which it comes in contact with these chemicals. Synthetic rubbers such as the neoprene and buna types, are more resistant to alkalis and oils than is natural rubber, but workers often object to wearing rubber garments. Some state that rubber causes them to perspire excessively, and many of them are allergic to compounds in the rubber. Moreover, rubber, both natural and synthetic, is on the priority list and is now difficult, if not impossible, to secure for the purpose of protective clothing.

We have found that some of the synthetic resin films, such as plio-film, koroseal, and vinylite, are impervious not only to dust and fumes but also to strong acids, alkalis, and petroleum distillates.<sup>3</sup> These materials may be made into sleeves, aprons, hoods, and overalls, and they have even been experimentally made into gloves. They are comparatively cheap, noninflammable, easily cleanable with soap and water, and transparent, so that the worker can see the bare arm or the clothes underneath. This latter property removes the psychologic effect of the wearer's feeling confined. It is true that these substances, like rubber, prevent the circulation of air on parts of the body which they enclose, but this can be taken care of by placing vent holes in the upper parts of the sleeves and in the rear of the coveralls, where such holes are not likely to allow the entrance of irritants. We have found that some of these films give good protection even against the war gases. The material used for sleeves can be made of

such strength that it will tear if caught by cogs before drawing the arm of the worker into the machinery.

Pliofilm, vinylite, and koroseal, are affected by trichlorethylene and carbon tetrachloride, and therefore, are not suitable for protective clothing against these solvents. The polyvinyl alcohols are proof against trichlorethylene and carbon tetrachloride. They are manufactured in the form of gloves and called by the trade name of "resistoflex." The polyvinyl alcohols are affected by water and therefore, "resistoflex" gloves should not be exposed to water. They may be cleaned with the volatile solvents.

Cellophane or regenerated cellulose is not yet on the priority list. It can be plasticized with glycerin to form a pliable film capable of being made into protective clothing. Cellophane is not affected by acids or petroleum solvents, and is also good protection against war gases. The cellophane film may be treated with ammonium sulfamate, which makes it flameproof, and may be coated with a water-soluble resin, which makes it waterproof. Cellulose acetate films are water-insoluble and may make suitable protective clothing.

Leather gloves offer good protection against irritant or sensitizing solids and dusts. Leather gloves should be made of soft, pliable, washable leather, such as chamois. The seams should be finished and smooth. Coarse seams rub and irritate the skin causing dermatitis not only by mechanical friction, but by rubbing into the denuded skin the irritant chemical particles which have fallen into the glove. Gloves used for the protection of the hands from irritant chemicals should reach well up the forearms and should be worn under impervious sleeves, fastening at the wrists so as to prevent the entrance of irritant chemicals. Aprons should reach well up to the neck and below the knees. Aprons are of special value in protecting the body from cutting oils. In order for protective clothing to be really protective it must be cleaned daily.

### Protective Ointments

WHILE protective ointments are low on the list of preventive measures, they are often the only available means of protection. In most occupations the face cannot be covered by protective clothing. The work must often be performed with bare hands, gloves being unsuited for the operation. Workers, as a rule, dislike to wear protective clothing but seem to have a particular liking for the use of protective ointments. When a protective ointment is used, the worker invariably washes it off with soap and water immediately after work, and so removes not only the ointment but whatever irritants there are on the skin. Washing off the ointment after work adds considerably to the protection supposedly given by the application of the ointment.

There is no one protective ointment that will give efficient protection against all skin irritants. However, all protective ointments should have the following properties:

1. They should be nonirritating and non-sensitizing.
2. They should give actual protection from the irritant.
3. They should be of such consistency that they can be easily applied.
4. They should stay on while the worker is exposed to the irritant.
5. They should be easily removable at the will of the worker.

Protective ointments may be divided into six classes<sup>1</sup>:

1. The simple vanishing-cream type, which fills the pores with soap and facilitates the removal of soil when washing after work.
2. The type which leaves a thin film of a resin or wax on the skin and thus prevents the irritant from touching the skin. This class may be subdivided into (a) water-soluble films and (b) water-insoluble films. They may be in the form of ointments, emulsions, or solutions. This class of protectives is sometimes called the "invisible glove" type. The water-soluble film is supposed to protect against oils, the volatile solvents, and water-insoluble allergens, such as TNT and tetryl. The water-insoluble resins and waxes are used to protect against water-soluble irritants. Shel-

lac, benzoin, and nitrocellulose are the most frequently used resins in this form of protective, whereas the water-soluble resins most frequently used in protecting against water-insoluble allergens are methyl cellulose, Irish moss, sodium silicate, tragacanth, acacia, casein, and sodium alginate.

3. Protective ointments which cover the skin and fill the pores with a harmless fat which repels water-soluble irritants and prevents entrance into the pores of harmful petroleum oils, greases, and coal-tar derivatives. Such ointments may also be used as protectives against solvents because they buffer the action of the solvents. These ointments consist mainly of lanolin and sufficient castor oil to make the lanolin spreadable. The addition of a small amount of a wetting agent makes them removable with water at the will of the worker, and the addition of a small amount of perfume masks the disagreeable odor of lanolin and castor oil.

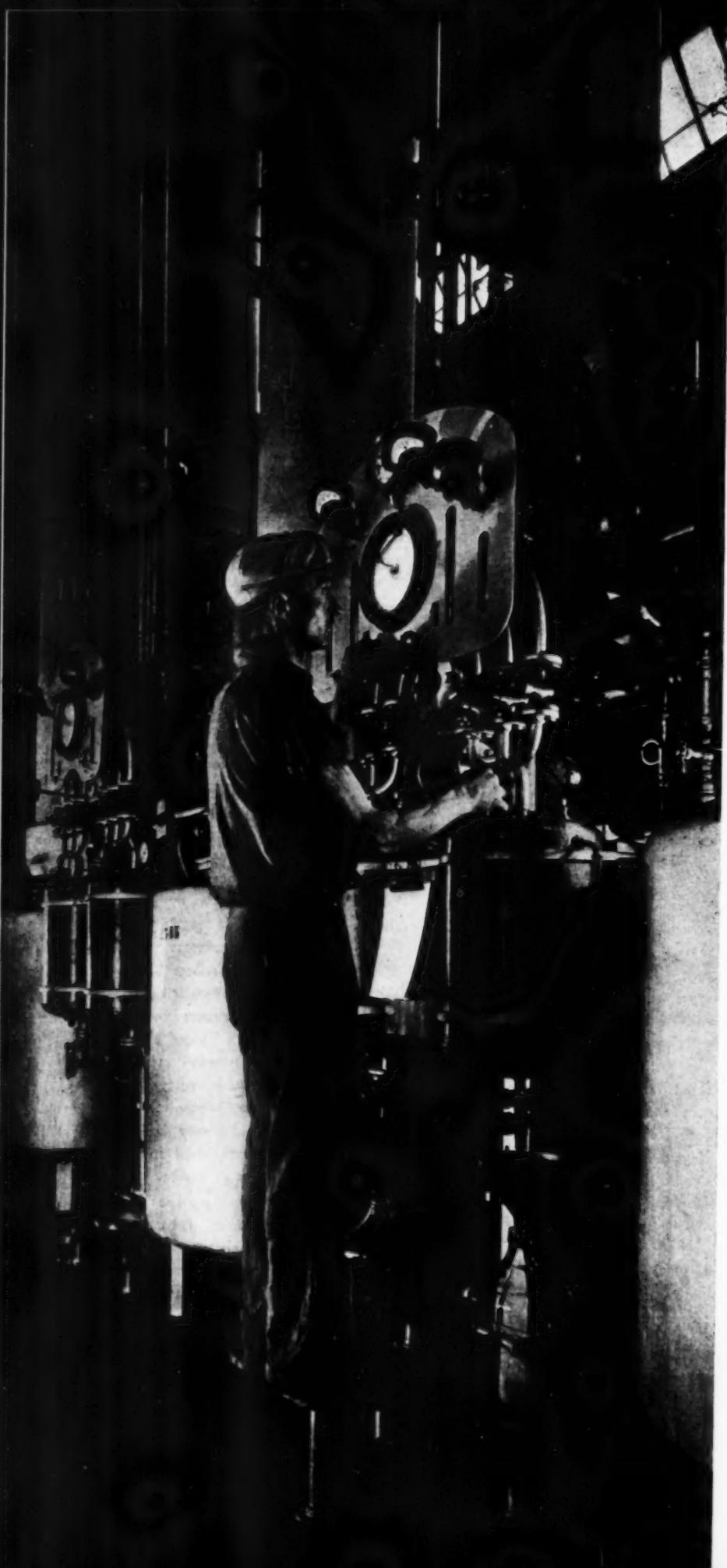
4. Protective ointments which contain a nonirritant chemical intended to detoxify the industrial irritant. For instance, such a protective cream against acids may contain soap and magnesium hydroxide intended to neutralize the acid, or nonirritant per salts to oxidize substances whose irritant properties are destroyed by oxidation.

5. Protective ointments which cause inert powders to adhere to the skin, forming a physical barrier against skin irritants. Such protectives are effective even against a limited exposure to flames. The powders may be calamine, titanium oxide, zinc oxide, iron oxide, kieselguhr, bentonite, etc. The adhesive or binder may be any one of the resins mentioned in the "invisible glove" type of cream.

6. Protective applications against photosensitizing substances. These may contain such chemical light screens as menthol salicylate, sesculin, quinine, anthranilates, and tanates, as well as physical light screens such as zinc oxide, titanium oxide, etc.

The best protective creams, emulsions, and lotions on the market

(Turn to Page 74)



T

HE perfumer has always been an artist. Now he has become a magician as well. He cannot pull bottles out of an empty hat or from up his sleeve, but he has somehow managed to produce perfume, even in a day of shortage of alcohol, shortages of almost all essential oils, all their isolates and derivatives, and an ever-worsening situation in aromatic chemicals.

We are wont to think of chemicals for war in terms of poison gases, explosives and perhaps such medicinals as the sulfa drugs. The chemical industry, however, is to a tremendous extent an "intermediary industry," the supplier of goods that never see the light as end products in themselves, but that are used in the development of everything around us, metals, textiles, foods, medicines, soaps, paints.

In this tremendous consumption of chemicals for war purposes and for the essential well-being of our country, there are used those materials which otherwise might have been available for the manufacture of perfume chemicals. The shortage of aromatic chemicals can therefore be traced, not to their use in making synthetic rubber or explosives, but to the fact that the aromatic chemical manufacturer must compete with synthetic rubber for the same raw materials.

Let us consider how our industry is dependent on half a dozen coal-tar and petroleum derivatives. Take benzene, for instance. This important coal-tar derivative is the starting material in the most important process for the manufacture of phenyl ethyl alcohol, and the latter, in turn, in addition to its widespread use for its rose odor, is the starting material for the production of phenyl ethyl acetate, phenyl

# The Supply Situation in AROMATIC CHEMICALS

ethyl propionate and a group of similar esters. Nor does this end the dependence on benzene. It is also used in the manufacture of benzophenone and acetophenone, in the manufacture of nitrobenzene, which in turn is used in producing eugenol vanillin.

If benzene were today to become completely unavailable to the aromatic chemical industry (and its availability has been most limited, indeed), all of the products mentioned above would be seriously affected. Some could be made from other processes, but as we shall shortly see, other raw materials would not present a better supply situation.

But if the contrary should prove true, and benzene be made fully available to the industry, we should still find ourselves in a serious predicament. For phenyl ethyl alcohol there would be required aluminum chloride, which is not easily obtainable, and ethylene oxide. For benzophenone, there would be required aluminum chloride and carbon tetrachloride. Acetophenone production uses acetic anhydride as well as aluminum chloride. For vanillin, the most important raw material, the clove oil from which eugenol is obtained, would still be needed.

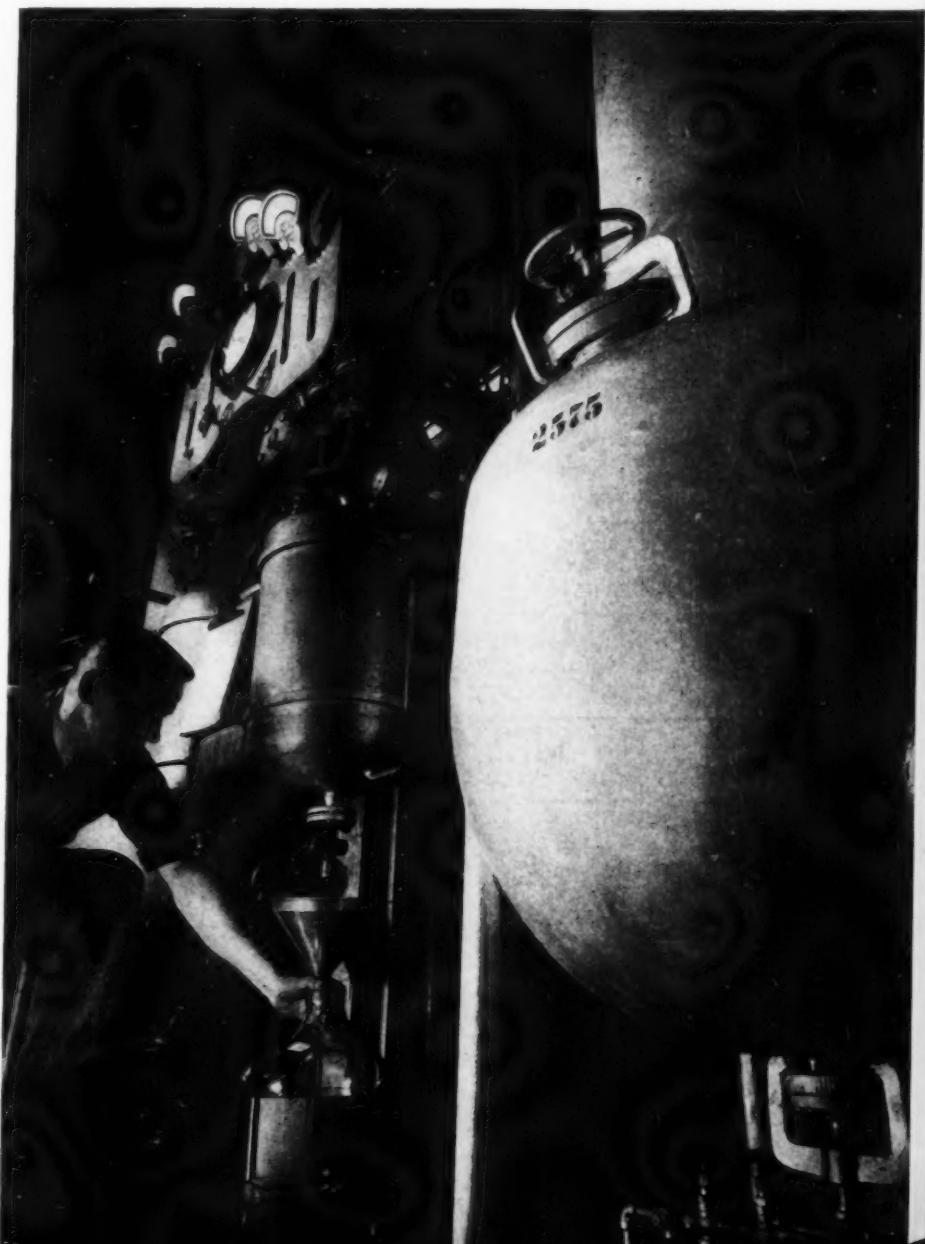
Consider for a moment our dependence on toluene. From this substance we obtain benzyl chloride, which is the raw material for the manufacture of phenylacetic acid, benzyl alcohol, benzyl acetate, benzyl benzoate and related products. But its most vital use to our field of endeavor is in the synthesis of benzaldehyde, either by a process of direct partial oxidation to the aldehyde, or through benzyl chloride, benzal chloride and benzyl alcohol as intermediates.

*By Edward Sagarin*

Givaudan-Delawanna, Inc.

Thus we can see that benzaldehyde may be short in supply, because it depends on toluene. But from benzaldehyde, the aromatic chemical manu-

facturer makes cinnamic aldehyde, as well as phenyl acetaldehyde. Cinnamic aldehyde is used in the production of cinnamic alcohol, in turn the raw ma-



terial for phenyl propyl alcohol and any number of cinnamyl esters. This entire structure is dependent on toluene, let us not forget.

We could continue this throughout the entire list of chemicals found in a perfumer's notebook. Three of the best known synthetic musks, namely, musk ketone, xylene and tibetine, depend upon xylene for their source. The fourth musk, musk ambrette, must look to supplies of meta-cresol, and meta-cresol is also necessary in the synthesis of thymol.

From ortho-cresol, coumarin is synthesized, and from naphthalene we obtain beta naphthyl methyl ketone, known to the industry generally as oranger crystals. From phenol there is made anisole, para-methoxy acetophenone (also known as acetyl anisole), and diphenyl oxide. Our story could be continued to show the dependence of the industry on formic acid, acetic acid, isopropyl alcohol, acetone and several other widely used chemicals, formerly abundant but now difficult to obtain.

These are the tools of American chemistry — these are the building blocks of the great chemical industry so vital in war. The last few years have seen our supplies, where they have not been cut off, at least seriously curtailed. The material which the industry depended on have had to be diverted in tremendous quantities into the making of new elastomers (because our sources of rubber have been seized), into new and ever-increasing quantities of explosives, of dyestuffs, of medicines, of naval paints.

Our supplies of chemicals have diminished at a time when essential oils from all over the world have been

either cut off or threatened, and chemical isolates of these oils, such as the ionones or linalyl acetate, have been missing from the market, while labor and packaging materials have been very short—and orders plentiful.

**T**O meet this situation has not been an easy task. The products required by the industry, allocated as they are by the War Production Board, have come along finally, generally in smaller quantities than desired, rather late, sometimes requiring further purification before use, but when these raw materials have been available, good use has been made of them, and production was able to continue.

From time to time, a raw material that had been particularly short has eased up a bit. Castor oil, of which there was such a serious dearth about a year ago, is now more freely obtainable. But, by and large, the direction has been the opposite. We are still pulling in our belts, and the end has not yet been reached.

The outlook for the industry is unpredictable, because it is tied intimately to the outlook for all industry. Who knows when the war will end, or when the nation's program of production for war will begin to decline? Who knows what the speed of this decline may be, what the period of reconversion will be like, and whether we face a post-war depression or post-war prosperity? In the answers to these questions are found the key to the future of aromatic chemicals.

But of some things we can be certain. The industry which, by its research, its use of very limited supplies, its ingenuity, has managed to supply perfumers in times of acute

shortages and increased demands, will not falter in the days to come. Supplies will continue as well as they have in the past. Standards have been kept uniformly high, and they are not going to be lowered.

The perfumer will get his pound of phenyl ethyl alcohol. It is true that he asked for two pounds and is only getting one, and it is also true that he is getting this pound a few weeks late. But let us have patience and understanding. The important thing is that he is getting his pound of phenyl ethyl alcohol!

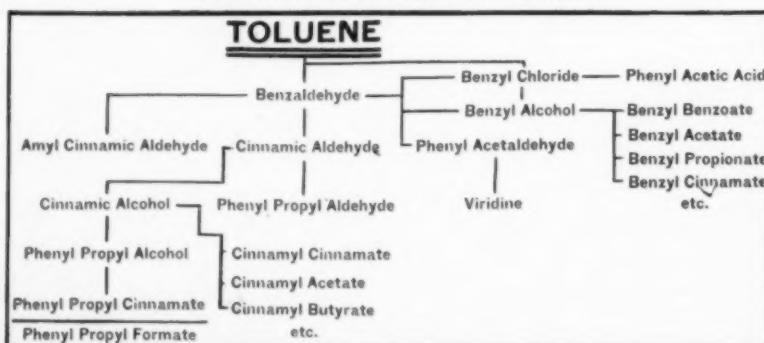
#### Analysis of Soap Mixtures

A procedure for the analysis of commercial mixtures of soap with synthetic detergents, is proposed which has given sufficiently accurate and reproducible results. The sample is extracted with 95 per cent ethyl alcohol to remove the major portion of the active ingredients, followed by solution of the alcohol-insoluble salts in water and reprecipitation of them by the addition of excess ethyl alcohol. Soap, fatty matter, and alcohol-soluble chlorides are determined directly; synthetic detergents are determined as the difference between total alcohol-soluble matter and the sum of soap, fatty matter, and alcohol-soluble chlorides. Donald Berkowitz and Rubin Bernstein. *Ind. Eng. Chem., Anal. Ed.* 16, 239-41 (1944).

#### Post-war Soap Carton Design

Lane Marohn, director of creative design for Robert Gair Co., New York, writes on "Soap Cartons" in the May, 1944, issue of *Modern Packaging*. As a suggestion to soap makers for possible post-war adoption she advances the idea that soap packages could gain added durability and increased surface protection against dampness, soapy hands, etc., through application of a gloss or lacquer. This would prolong the effective life of the package and guard against bleeding or fading of inks. She also suggests that to facilitate consumer comparisons on the retail dealer's shelf that every soap maker should show the net weight clause somewhere on the main panel of his package.

#### AROMATIC DERIVATIVES OF TOLUENE



# The Raw Material Outlook for the TOILET GOODS INDUSTRY

By Elmer B. Tysdal\*

Chief Cosmetic Unit, WPB

 In the past year there has been a definite improvement in the supply of raw materials used by the toiletries and cosmetics industry, with the result that many restrictions have been eased and in some cases orders have been revoked. The following summary reviews the present status of some of the most important raw materials used by the manufacturer of toiletries and cosmetics.

**Glass Containers and Metal Closures**—Raw materials for glass manufacturing are satisfactory. The glass industry operated during January and February at 100 per cent capacity. It is indicated that paper and labor will eventually become the limiting factor for the glass container manufacturer. Because of increased packaging requirements of the War Food Program, off shore shipments, as well as the continued scarcity of metals, there is little possibility that the restrictions of WPB L-103-b (the order covering glass containers and metal closures) will be relaxed within the near future.

**Metal Containers**—The metal situation is definitely not easy. Civilian, military, and Lend-Lease food needs must be met. Therefore, it is not anticipated that there will be any easing of the restrictions of order M-81 covering cans made of tin plate terne plate and black plate in the foreseeable future. In connection with the metal shortage I quote from a recent statement by Edward J. Detgen, director of the containers division of the War Production Board:

"Packers and shippers who use tin cans, steel drums, pails and metal

closures cannot expect improvements in the availability of those supplies during the next six months. There is no thought, in the Containers Division, of relaxing in the near future any of the metal containers limitation orders affecting tin cans, steel drums, pails and metal closures. In general the type of steel used for these containers is the same as that required by several of the most urgent military programs. As rolling mills are now working at capacity, and no drop in military sheet steel requirements is in sight, no steel for additional containers can be anticipated in the near future."

**Collapsible Tubes**—No changes are contemplated in order M-115 covering collapsible tubes at present. It is operating smoothly and manufacturers in general are receiving the quantities of tubes they expect, although not always in the types most desired.

**Micro-Crystalline Wax**—The allocation of micro-crystalline wax is controlled by the Petroleum Administration for War. The present status of micro-crystalline wax is as follows: Allocation for the second quarter for 1944 has been completed. Cosmetic collapsible tubes were allocated 100 per cent of requests. The wax used by tube manufacturers for lining cosmetic tubes is not of the extra critical grade. Therefore, indications are that allocations of this material for cosmetic tubes will most likely continue at or near 100 per cent of requests.

**Glycerine**—All restrictions including those on purchase, inventory and use have been removed from glycerine. This is far from the restrictions of a year ago when glycerine was denied for cosmetic use. The supply situation has improved steadily and it is

believed that any future restrictions that may be necessary will be less drastic than in early 1943.

**Peppermint Oil**—The new OPA ceiling on this flavoring oil, \$7 to producers, \$7.50 to dealers, and \$8.05 for redistilled oil should release the oil to users. There should be sufficient peppermint now available to take care of the limited requirements of the toiletries and cosmetics industry. In the event users have any difficulty in making authorized purchases during this period, they should appeal to the War Food Administration for aid. If the acreage of peppermint seems to indicate that this year's crop will be fairly good, the War Food Administration has indicated they will consider permitting authorized users to buy certain quantities of oil of the new production before October. An effort is being made by War Food Administration to increase production in 1944. While 1942 production was 1,435,000 pounds, a goal of 1,500,000 pounds has been set for 1944. If menthol imports are received, this amount should be ample and it may be possible to raise allocation quotas. It is entirely possible that the proposed production figure may not be obtained, if weather conditions are not suitable, if hand labor is not available, or if other conditions affect the yield unfavorably.

**Lanolin, Fatty Acids**—Reports from the War Food Administration indicate that the supply of fatty acids has increased during the past year to such an extent that oleic acids are no longer under allocation. However, in the event that the acid requirements of the rubber program should increase it may become necessary to control the distribution of fatty acids.

\* Before Toilet Goods Association, New York, May 18, 1944.

All restrictions on the use of castor oil have been removed and WFO-32 was revoked May 8.

During March and April of the present year, approximately 150,000 pounds of lanolin were released to refineries and distributors for ultimate redistribution to the toiletries and cosmetics industry. It is indicated that a similar quantity will be released for the 60 day period of May and June. Generally, the lanolin situation has improved and it is believed that military and major civilian requirements will be met. However, all estimates regarding the availability of lanolin are tentative and are subject to frequent revision. Partially responsible for the improved lanolin situation is the fact that three additional mills have entered the wool oil recovery program.

**Cellophane** — In view of increasing military demand there can be no relaxation of existing restrictions on the use of cellophane (covered by L-20). Therefore, the only cellophane available to the cosmetic industry now or in the near future will be waste and reject material.

**Alcohol** — In view of the increased demands of the synthetic rubber and military programs, the alcohol situation will continue to be critical throughout 1944. Consequently, efforts are now being directed at the maintenance rather than the expansion of existing alcohol quotas.

**Isopropyl Alcohol** — We anticipate that the supply will be very tight through the summer to October due to the fact that large quantities are going into anti-freeze for the 1944 and 1945 winter season. Some additional isopropyl alcohol production expected in the fall should help ease the situation.

**Cellulose Acetate** — Since the first of the year allocations of acetate have been directed to the molders to avoid duplication and false demands. This policy has gone far to establishing a more firm basis for allocations.

At the present time, flake is in good supply and allocations are made on the basis of each producer's capacity. The current bottleneck in acetate is plasticizer as all producers have

been forced to find substitutes for phthalates. This has resulted in considerable delay due to experimenting and sampling of new formulations.

Allocations for cosmetic packaging including lipstick have increased since the first of the year. For example, allocations for February were ..... 252,000 lbs. March ..... 384,000 lbs. April ..... 572,000 lbs. May ..... 670,000 lbs. Requests have remained consistently around a million pounds each month. Due to many other civilian requirements that have not yet been adequately covered, and also due to the demands on acetate as a result of the current polystyrene curtailment, it would be illogical to expect much greater allocations for cosmetic packaging for some months to come.

**Polystyrene Molding Powder** — Conforming with the benzol conservation program, polystyrene is currently being denied to cosmetic packaging or closures.

**Methyl Methacrylate Molding Powder** — One of the essential raw materials for the production of the methacrylate resins is currently in critical short supply and, for an indefinite period, the methacrylate plastics will be available for civilian work of the highest level of essentiality only and for which no known alternate materials exist. There will be none available for cosmetic packaging of any type.

**Urea Molding Powder** — The Plastics Section has been allowing full allocations of urea molding powder for cosmetic closures and utilitarian cosmetic packaging. They do not look with favor upon packaging that is highly decorative or unnecessary such as group packaging or displays. For example, a plastic box holding several bottles of nail polish or perfume, or a useless molded display or container that adds nothing to the product.

**Phenolic Molding Powder** — None has been allocated, nor is it likely that any phenolic molding powders will be allocated for cosmetic packaging other than for closures. The phenolic content in all closures has been restricted and the use of urea as being more available for closures has been encouraged. Authorizations

for new molds under L-159 are now more readily obtainable, and M-154 has been amended, lifting all restrictions on thermoplastic materials except cellulose nitrate. These actions should not be construed as indicating that molding materials are more available, as this is not the case. These actions were taken rather with a view toward simplification and to permit the building of molds with a low enough rating to prevent interference with the military programs. This report is as of today. Plastics are built upon chemicals and, so long as we are at war, a sudden military demand for even one basic chemical may alter the entire availability of plastic materials. It is only good common sense to be conservative in your plastic packaging programs.

**Metal Lipstick Holders** — WPB Order M-126 prohibits the use of steel for this item. However, a few appeals have been granted allowing the use of carbon steel for the production of lipstick holders in non-critical labor areas where this production does not interfere with war work.

**Steatite Talc**, M-239, is in a better supply-demand position. You can now maintain a six-month supply or, if you are a small user who customarily bought in carload lots, you can purchase a carload provided your inventory plus the car will not exceed 60 tons.

**Shellac Allocation Order**, M-106, has been revoked. This should be good news to producers of hair lacquers.

**Steel Strapping Order**, M-261, which prohibits the use of steel strapping for domestic shipments not exceeding 90 pounds, has been revoked.

**Triethanolamine**, is in good supply and you will most likely continue to receive your normal requirements.

**Propylene Glycol** is also in good supply and indications are that your requirements will be provided for.

**Titanium Dioxide** continues to be tight; 75% of production is directed for direct military use; 25% for non-military use. Cosmetics will continue to receive their share of this 25%. If you have any difficulty in procuring your minimum requirements notify me

(Turn to Page 74)



# The Way It Looks in *Washington* by C. H. JENKINS

FURTHER brightening in the fat and oil picture was apparent this month. The War Food Administration announced on May 13 that all quota restrictions on use of lard and rendered pork fat were to be removed for a six-weeks period running from May 16 to June 30. The removal of quota restrictions does not apply to inventories purchased prior to May 15.

The Castor Oil Allocation Order (WFO-32) and the Raw Linseed Oil Allocation Order (WFO-63) have been revoked effective May 8. Use of both oils, however, is still subject to quota restrictions of WFO-42. WFO-34, regulating use of glycerine was also revoked effective May 16, although all provisions of WFO-33 covering recovery of glycerine still remain in effect. Restrictions on use of fish oil have also been lifted, and the government's stockpile released for use by civilian industry.

#### Drop Tallow Inventory Controls

Inventory limits placed on producers, dealers and users of tallow and grease under War Food Order 67 were suspended May 20 by action of the War Food Administration. The suspension will continue through May, June and July. Previously inventories were limited to a ninety-day supply. Recent high production rates which have re-

sulted in building up stocks substantially are given credit for this latest liberalization of WFA oil and fat controls.

Another recent change is in Order WFO-87 governing inventories of fatty acids. This has been amended to permit basing of inventory limitations on current consumption rather than on consumption during the second six months of 1943, which was formerly taken as the base period for figuring inventory limitations. The amendment also raises from 3,000 to 12,000 lbs. the quantity of fatty acids which may be held in stock before making the holder subject to the inventory control provisions.

Another change in WFO-42 during the month was an increase from

*View of the capitol shown above is by John Louglin, steward at the Chemists' Club, New York, and accordingly well-known to many persons in the chemical industry. His hobby is the camera and his pictures, many of them unique, have received wide publication. The above was made from an enlargement of a shot with a small box camera.*

60 to 70 per cent in the oils and fats quota for manufacturers of paints, varnishes, coated fabrics and linoleum. While the change in this order does not affect soap manufacturers, it is significant as an indication of the trend.

#### Container Outlook Dark

While the oil and fat outlook continues to improve, the container and paper board situation further deteriorates. Soap company appeals under L-317 (the fiber shipping container order) have without exception been denied. Unless there is a change in the WPB attitude, it would thus seem that soap makers must anticipate getting along on 80 per cent of the footage or tonnage (whichever is lower) of such use in the corresponding quarter of 1942. The WPB line of solution to the packaging and shipping problem seems to center around the container re-use idea.

There seems to be as yet no answer to the problem of what soap makers are to use to ship the quotas of soap which WFA allows them to make. A few weeks ago verbal assurances were being bandied about Washington to the effect that if individual soap makers packed according to the minimum standards recommended by WFA to WPB (see SOAP, April issue, page (Turn to Page 55)

# TURNER CHEMICALS

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# NEWS. . . .

## 1944 Soap Sales Up Sharply

Sales of soap during the first quarter of 1944, as reported in the quarterly soap census of the Association of American Soap and Glycerine Producers, amounted to 788,000,000 lbs., valued at \$104,000,000,—exclusive of sales of liquid soap. The above figures are based on reports of 71 manufacturers who supply sales figures to the association. Sales of liquid soap reported by 41 manufacturers amounted to 829,000 gallons for the quarter, valued at \$984,000. The total of dollar sales for all soaps delivered represented a gain of 15.3 per cent over the first quarter of 1943. As compared with the fourth quarter of 1943, the biggest quarter of that year from the standpoint of sales, the gain was 2.4 per cent.

## P. & G. Chicago War Bond Record

Employees of the granules department of the Proctor & Gamble Co.'s Chicago plant are subscribing 16 per cent of their wages for war bond purchases. Over 97 per cent of the Chicago employees are subscribing better than ten per cent of payroll for bonds, recent figures also show.

## Honor Wrisley Traffic Mgr.

A. W. Linderman, traffic manager of the Allen B. Wrisley Co., Chicago, was elected a member of the Board of Directors of the Clearing-Cicero Industrial Traffic Conference at the recent annual business meeting.

## Lt. Huisking Killed in Italy

Frank R. Huisking, 27, a Second Lieutenant in the U. S. Army Air Forces, the son of Mr. and Mrs. Charles L. Huisking, of Huntington, Long Island, and before his enlistment in 1942, secretary of Conti Products Corp., Brooklyn, was reported by the War Department to have been killed in Italy, April 18. Lt. Huisking, whose

father is the head of Charles L. Huisking & Co., and a number of other well known firms in the drug industry, is the nephew of Joseph A. Huisking,



LT. FRANK R. HUISKING

vice-president of Fritzsche Bros., Inc., New York essential oil firm. Lt. Huisking was believed to have been copilot of the bomber at the time of the crash. He was born in Brooklyn, Sept. 19, 1916, and was graduated from the University of Notre Dame in 1937, at which time he joined Conti Products Corp. Besides his parents, Lt. Huisking is survived by his four brothers; Charles L., Jr., treasurer of Aircraft Screw Products Co., Long Island City; Sergeant William W., U. S. A.; Lieut. Edward P., U. S. M. C., and Lieut. Richard V., U. S. N. R., and four sisters.

## BIMS To Golf at Winged Foot

A change in plans for the second golf outing of the New York BIMS has been announced by Martin F. Schultes. This outing will be held at Winged Foot Golf Club, Mamaroneck, N. Y., on July 25th instead of at Siwanoy as originally planned. The first outing is scheduled for Crestmont Golf Club, West Orange, N. J., June 27.

## Fat Salvage Committee Meets

Problems relative to collection and disposal of salvaged fats were discussed at the first meeting of the rendering industry's new 15-member advisory committee to the OPA which met recently in Chicago. A. A. Thomson of OPA's Washington office, who presided at the conference, said waste fats are being collected at the rate of 180,000,000 to 190,000,000 pounds a year. Since Dec. 15, when OPA started to pay two ration points for each pound of discarded household grease, the amount salvaged has nearly doubled and the volume is increasing about 10 per cent every two weeks, he stated.

## J. G. Williams Dies

George G. Williams, 87, retired president of J. G. Williams Co., Glastonbury, Conn., soap manufacturing firm, died unexpectedly of a heart attack May 17, at a fishing camp on Pemaduncook Lake, twenty miles northwest of Millinocket, Me. An ardent fisherman and sportsman, Mr. Williams made his home in Farmington, Conn. He was the son of the late William S. and Mary Goodwin Williams of Glastonbury and was a director of the Grenfell Mission in Labrador. He leaves seven nieces and a nephew.

## Alkali Assn. Asks Dismissal

The U. S. Alkali Export Assn., New York, has filed a motion to dismiss the suit against the Association and other defendants brought by the U. S. Department of Justice, last March, for alleged violation of the anti-trust laws. The motion for dismissal was said to be based on the grounds that the court is without jurisdiction to hear the complaint because jurisdiction is vested in the Federal Trade Commission. The motion was to have been argued May 10, in the chambers of Judge Alfred C. Coxe, Southern District Federal Court.

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FACTORIES AT CLIFTON, N. J. AND SKILLANS (VAR) FRANCE

## T. G. A. Re-elects H. L. Brooks

MANUFACTURERS of toiletries and cosmetics were warned that they face an increasingly serious situation in their future supply of packages and shipping containers at the recent annual meeting of the Toilet Goods Association, held at the Waldorf-Astoria, New York, May 18 and 19. A record attendance was reported, with over 700 on hand at various sessions to hear a group of government and industry speakers outline the future outlook for the industry. H. L. Brooks, of Coty, Inc., New York, was re-elected president of the association, together with the following other officers: first vice-president, William M. Bristol, Jr., of Bristol-Myers Company, New York; second vice-president, Paul H. Douglas, of Bourjois, Inc., New York; third vice-president, H. P. Willats, of Colonial Dames; treasurer, Paul F. Vallee; secretary, Joseph A. Danilek, of Lehn & Fink Products Company; executive secretary, S. L. Mayham; counsel, Hugo Mock; director, Board of Standards, H. D. Goulden.

In offering his president's report at the opening session, Mr. Brooks called particular attention to the gain in membership which the association has recorded over the past year. Membership now totals 255 active and 131 associate members. Predicting that when the war is over, many new packaging materials will come into use by the toilet preparations industry, Mr. Brooks anticipated that the industry's package designs will become more startling and unusual than ever. He suggested that to stimulate the search for newer and more striking presentations, the association should offer an annual prize to the company which introduces the most unusual package. Another suggestion was advanced that the association might want to consider naming a public relations counsel. Expansion of the activities of the association's Scientific Section and its Board of Standards was also suggested, pointing toward more and more research of a collective nature.

On the subject of price control, Mr. Brooks noted with concern the increasing tendency of the OPA to



HERMAN L. BROOKS

"intrude" more and more into matters which would not seem to come properly within its jurisdiction. Recent questionnaire attempts to study corporate profits were cited as an example. In this connection the TGA has addressed a letter to the committee conducting hearings on renewal of the Emergency Price Control Act, suggesting that in drafting the new act, provisions be inserted making it unlawful for the administrator to relate the price of any individual commodity to the general profits of the company making the product.

The address of Elmer B. Tysdal, Chief of the WPB Cosmetic Unit, on the supply outlook for many of the materials used by the manufacturer of toilet preparations appears in full elsewhere in this issue (page 37). F. J. Solon of the Containers Branch of WPB, elaborated on the container and paper board outlook. He predicted that containers of all types will continue in short supply for an indeterminate period. As more soldiers are shipped overseas, more and more containers will be required by the military. A new paper board order is expected early in June which will set further restrictions and quotas for all users. For civilian

users of containers the only answer, he indicated, would seem to be greater dependence on re-use of old containers.

Francis T. Dodge, president of Dodge & Olcott Co., New York, outlined the supply situation on essential oils at the May 19 session. He indicated that there are substantial quantities of such oils as geranium, vetivert, ylang ylang, etc., in Madagascar, Reunion and the Comore Islands, but how to finance importation and how to get the oils shipped here present very serious problems. French colonial authorities are said to be building stockpiles for eventual shipment to France, but again it may be many months before shipping facilities are available. Following Allied reconquest of Sicily and southern Italy, substantial stocks of oil of bergamot were located in caves and warehouses, Mr. Dodge said. Some of this oil has been shipped to England, and efforts are now being made to have some of the oil released for shipment to the United States. A more complete version of Mr. Dodge's address may be found on page 61.

Reviewing the aromatic chemicals supply situation, A. L. van Ameringen, president of van Ameringen-Haebler, Inc., New York, declared that shortages of technical benzaldehyde and metacresol had posed serious problems for the industry over the past year. Shortage of benzaldehyde has reduced production of several cinnamic derivatives, while lack of metacresol has cut the output of musk ambrette. Short stocks of citronella oil and bois de rose have also handicapped the aromatic chemical manufacturer, limiting his production of such extractives as linalool, geraniol and linalyl acetate.

Colonel R. P. Kuhn of Headquarters Army Service Forces addressed the group on plans for the disposal of government owned surplus commodities following the end of the war. He denied very definitely that the government has any thought of dumping brand named products and thus wrecking markets. Specific instructions have been issued which should prevent this happening. All surplus merchandise is first to be offered to other exchanges. If no market is found in this direction, other governmental agencies are to be

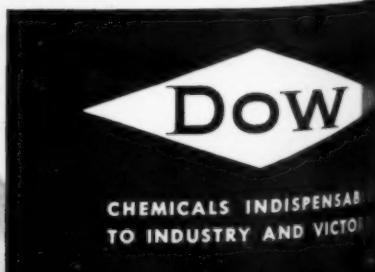
# AROMATICS

## SYNTHETIC



Beauty is well served by enticing fragrances and alluring scents. Perfumes and cosmetics gain materially in quality and distinction through Dow's long experience and technical facilities in the production of Synthetic Aromatics.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN



contacted. Failing this, the merchandise will be offered to the original vendor or manufacturer at cost. Only after these possibilities have been exhausted will surpluses be offered at public auction. Inventories of drugs and toilet preparations are said to be rather low, and with the addition of quantities currently on order, the total is only approximately twice the monthly volume of sales. It is the Army's belief that as far as toilet articles are concerned, there will be no large post-war surpluses to be liquidated.

#### Soapers Win Safety Awards

Chicago area plants of Lever Bros. Co. and the Procter & Gamble Co. were listed among thirty-three concerns which won awards in the 30th semi-annual inter-plant accident prevention contest conducted recently by the Greater Chicago Safety Council. Other winners in the chemical field included Victor Chemical Works, the Glidden Co.'s Soya products division and Carbide & Carbon Chemical Corp. Statistically the contest revealed 9.4 lost time accidents per million man-hours worked by the 249,494 employees of the 145 participating plants.

#### Detrex Advances Camel

Leroy Camel has just been advanced to the position of sales manager of the Alkali division of Detrex Corp., industrial cleaning preparation manufacturers. He was formerly manager of the eastern section of the Alkali division with offices in Cleveland. He will make his headquarters in Detroit.

#### CDCA Spring Party

The Spring Garden Party of the Chicago Drug and Chemical Association was held May 20, at the Drake Hotel. Dinner in the grand ballroom followed a "get-together cocktail hour" in the Walton Room.

#### Hofstra Students Hear Snell

Foster Dee Snell, of Foster Dee Snell, Inc., Brooklyn, spoke recently before the annual meeting of the student affiliate of the American Chemical Society at Hofstra College. Dr. Snell's address was entitled: "Opportunities in Chemistry and Chemical Engineering."



ROY W. PEET



JAMES A. REILLY

#### Two New C-P-P V.P.'s

Roy W. Peet, assistant to the president of Colgate - Palmolive - Peet Co., Jersey City, N. J., and James A. Reilly, manager of the C-P-P soap sales division, were elected vice-presidents of the company at the annual meeting of the stockholders, which was held recently in Jersey City. Mr. Peet has been with the company for

25 years in various executive capacities; advertising manager and director of advertising. As vice-president he will be responsible for research and development, market research and new products departments. With the organization 20 years, Mr. Reilly has served in various sales capacities. As vice-president, he will have the title manager of soap sales.

#### P & G Buys in Baltimore

Proctor & Gamble Co., Cincinnati, is reported recently to have bought the property adjacent to its Baltimore plant. Purchase price is said to have been \$35,000. Davison Chemical Corp. were the owners of the property.

#### Premium Plan Includes Soap

Two premium bearing soap products, Octagon Soap products and Kirkman Soap Products, are part of a cooperative advertising campaign that will be carried in four hundred and twenty-five leading southern and northern newspapers. The advertisers will present and promote their premium plan for consumers whereby all companies will honor each other's gift certificates. Customers are thus able to use coupons from many products rather than one type only as heretofore. In the south, the cooperative products include Octagon soap products, among others, and in the north, both Octagon soap products and Kirkman soap products are included. Over one thousand different gifts are given for the combined coupons. Over 2,800 premium

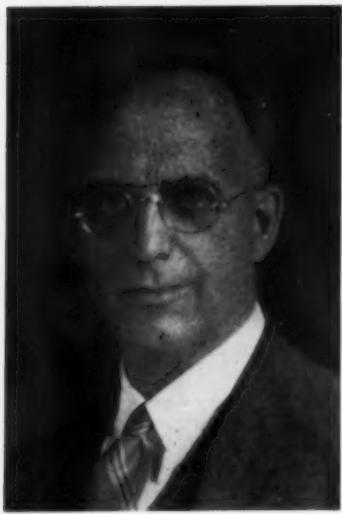
stores and premium distributors are maintained by the cooperating group of manufacturers.

#### Chi. Chemical Show Nov. 15-19

Peacetime possibilities for utilization of wartime developments in chemistry will be stressed at the 3rd National Chemical Exposition, to be held in Chicago, Nov. 15 to 19. Sponsored by the Chicago section of the American Chemical Society, the affair will be staged in Chicago's historic Coliseum Building. Headquarters for the show, which is under the management of Marcus W. Hinson, have been established at 330 S. Wells st., Chicago.

#### Salesmen Hold First Outing

The first golf tournament of the season sponsored by the Salesman's Association of the American Chemical Industry was scheduled to be held Tuesday, June 6, at the Garden City Country Club, Garden City, L. I. Prizes totaling \$125 in war bonds and stamps were to be awarded. J. Robert Fischer, Fischer Chemical Co., New York, was chairman of the committee.



DR. E. G. THOMSSEN

#### Thomssen Resigns from Watkins

Dr. Edgar G. Thomssen, who for the past 21 years has been chief chemist of the J. R. Watkins Co., Winona, Minn., has announced that he resigned his connection with that company effective June 1. Dr. Thomssen has also announced that he has established an office to act as consultant on chemical and allied production problems, particularly in the field of soap products, insecticides, disinfectants and other household specialties. For the past twenty years, he has been well known as a contributor to the trade and technical literature. He was the author of "The Soapmaking Manual" and co-author of "Modern Soap Making," both production works on soap manufacture. His present address is 306 Center St., Winona, Minn.

#### New DuPont Detergent

A new synthetic detergent developed specifically for use as an ingredient in salt water and all-purpose soaps supplied to the Armed Forces has recently been announced by E. I. du Pont de Nemours & Co. It is said to be of the class consisting of sodium salts of sulfonic acid derivatives of aliphatic and alicyclic hydrocarbons. Mixed with other normal soap constituents in a proportion of about one to two, it is said to give an all-purpose detergent that will remove dirt, oil and grease in any kind of water, salt or fresh, cold or hot, hard or soft.

#### Await Container Reuse Results

Issuance by OPA of MPR-529 last month, setting ceiling prices on second-hand paperboard shipping containers, opened the way for the actual start of the 90-day Chicago Test Campaign on soap container reuse, which is sponsored by the Association of American Soap and Glycerine Producers, Inc., and is being participated in by the principal marketers of household soaps in that area. Until the appearance of OPA price ceilings, only preliminary work had been possible. Since that time, however, numerous contracts have been signed with grocery chains, cooperatives and others who empty large quantities of soap containers. While it is too early to report results, it is hoped that substantial quantities of reusable containers will be collected and sent back to the soap factories.

The test was open freely to any soap manufacturer who markets household soaps in Chicago, whether or not the manufacturer was an Association member. However, participating companies were required to spot-seal and/or tape the containers shipped into the Chicago area that were to be included in the test and to label such containers for reuse. Companies which elected to participate were Armour & Co., Colgate-Palmolive-Peet Co., Cudahy Packing Co., Andrew Jergens Co., Lever Brothers Co., Procter & Gamble Co., and Swift & Co. Now that the test period is actually under way, other companies cannot be added during the experimental period. When the test ends, a decision will be reached as to whether the results justify continuance of this type of salvage effort and whether it will be extended to other areas and additional soap-makers again invited to participate. The salvage of reusable containers is being handled by an agent, who is paying the ceiling prices permitted by the OPA under MPR-529, as follows:

#### Prices Paid per ton of Containers

	f.o.b. seller's platform	delivered by seller with loading in a radius of 10 miles
Unsorted lots .....	\$40	\$45
Sorted as to size..	70	75
Sorted as to size and brand .....	75	80

It is optional with the seller on what basis he offers his reusable containers. Where the seller does not wish to bother with the sorting operation, this is taken care of by the agent.

#### Chicago Assn. Golf Plans

The annual golf program of the Chicago Drug & Chemical Association and the Chicago Perfumery, Soap & Extract Association got under way May 25, when the first of a series of three meets was held at Sunset Ridge Country Club. Succeeding games will be played at Midlothian County Club on June 20 and at Bob-O-Link Club on Aug. 8. Arrangements are in charge of a committee headed by Bruce Puffer of Kimble Glass Co., and including David K. Olin, Service Stores, Inc.; Robt. Gillham, Kimble Glass Co.; Wm. Gairns, Aluminum Company of America; Walter Johnson, Fairmount Glass Works; S. B. Bradshaw, Armour Labs., and C. W. Allen, Albert Verley, Inc.

#### Good Resigns as Woburn V.P.

J. Edmund Good, vice-president in charge of sales for Woburn Chemical Co., Harrison, N. J., recently resigned from that position. He had been with the company for about 15 years, and before joining Woburn was for a number of years vice-president of Zenithem Co., New York. Earlier Mr. Good had been connected with the steel industry representing firms in the far east. His future plans have not been announced as yet.

#### Conti Buys Draper Soap Co.

Conti Products Corp., Brooklyn, have just announced the purchase of Draper Soap Co., Pawtucket, R. I., which Conti will operate as a division. The newly acquired division will be used to manufacture Conti's industrial and textile soaps, and it is expected, too, that products now manufactured in Brooklyn for the beauty trade will also be turned out in Pawtucket. The acquisition of the Draper plant greatly increases Conti's facilities, according to the announcement of the purchase. At the same time, Conti has just bought a large building and land adjoining their modern home plant in Brooklyn.



## RAINBOW OF STEEL

Symbol of the ties that bind Canada  
and the U. S. together in friendship  
is the new Rainbow Bridge recently

erected across the gorge below Niagara Falls. Built in harmony with the rugged Niagara landscape, it is a promise of still greater cooperation between the two countries as well as a permanent answer to the challenge of the deep gorge and the swift currents that flow through it.

This bridge also epitomizes the growth of the Niagara region as one of America's most important industrial

centers. With the Falls as a source of almost unlimited hydroelectric power, this area has become a fountain-head of strength for the nation at war. Out of its factories are pouring huge supplies of chemicals, chemurgical products and many other essential materials. And Niagara Alkali, pioneer chemical manufacturer in this district, is helping to set a new pace in speed of production and efficiency of service in meeting these vital needs.

CAUSTIC POTASH • CAUSTIC SODA • PARADICHLOROBENZENE  
CARBONATE OF POTASH • LIQUID CHLORINE

An Essential Part Of America's  
Great Chemical Enterprise



**Niagara ALKALI COMPANY**  
60 EAST 42nd STREET, NEW YORK 17, N. Y.

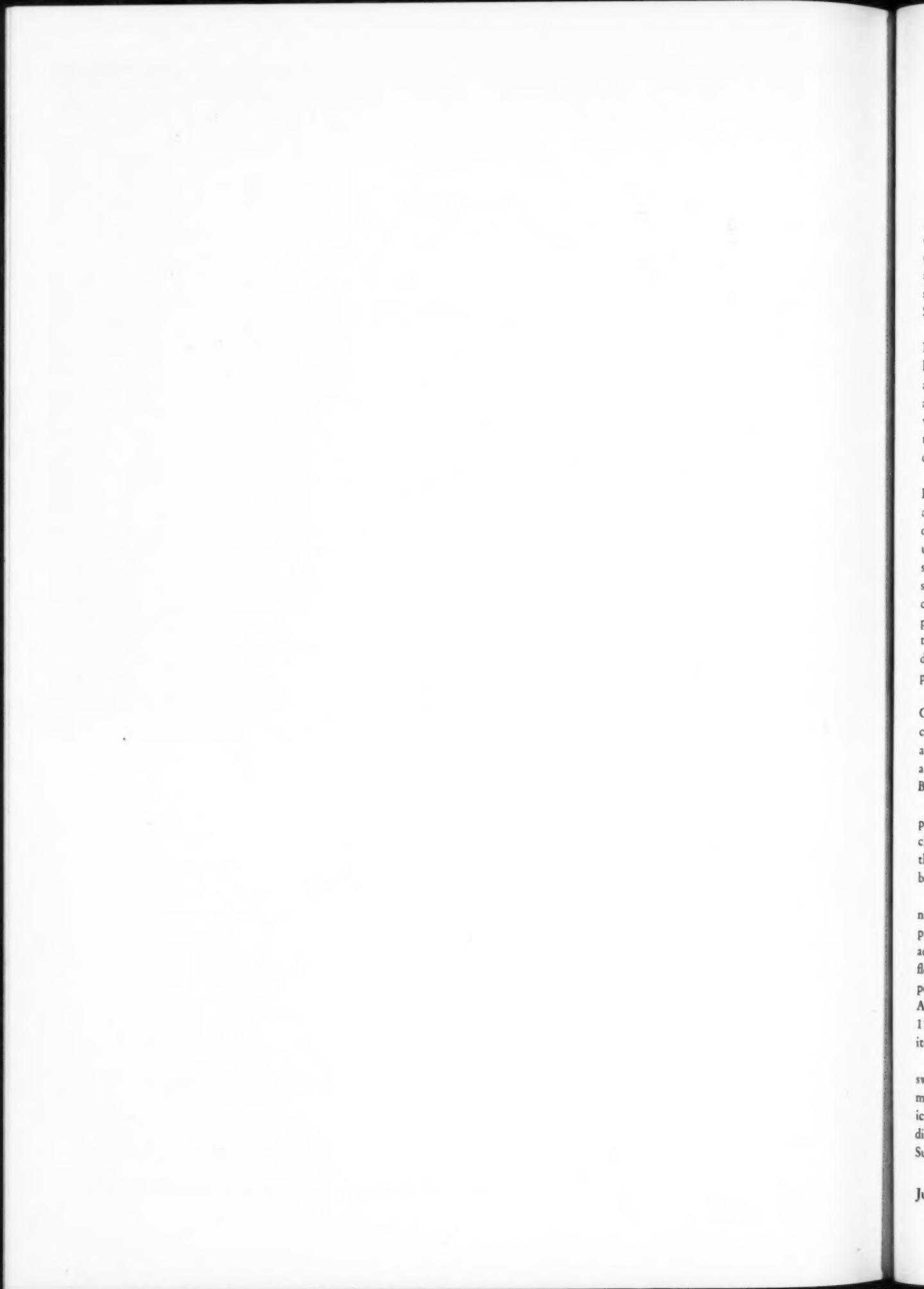
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## Exhibit Soaps at Safety Show

ACCIDENT prevention and sanitation angles of soaps, hand creams, disinfectants, floor sweeping compounds and other products were stressed by a dozen manufacturers who showed their products at the Midwest Safety Congress in Chicago, May 2 to 4.

West Disinfecting Co., Long Island City, N. Y., featured "Sulpho" hand cleaner, "Westamine" spray fluid and odorless disinfectant, "Ratmort," and other chemical products together with their line of "Durma-Gard" protective garments. R. O. Jackson, Chicago manager, in charge.

G. H. Packwood Mfg. Co., St. Louis, showed their "Pax" line of powdered hand soaps, including a number of special formulas compounded for use in industrial plants. Pre-war metal soap dispensers, of which a considerable stock is still available, according to a company representative, also newer plastic designs, were shown. Awaiting the end of the war is a new "Paxette" dispenser for installation in offices, airplanes and the home.

Waverly Petroleum Products Co., Philadelphia, introduced "Flix," a cloth sack or pad-like device containing absorbent chemical materials for use as a safeguard against dermatitis. L. A. Benn, Chicago representative, in charge.

Stepan Chemical Co., Chicago, promoted "pH 6," a sulfonated oil skin cleaner to be used in connection with their non-abrasive cornmeal "Scrubber" on "factory hands."

Sugar Beet Products Co., Saginaw, Mich., called attention to a new product, "SC-49 Cleaner" for fast action cleaning of walls, ceilings and floors, and "SN-7," a sweeping compound for making floors slip-proof. Also promoted was the familiar "SBS-11," powdered hand soap with other items in the concern's soap line.

Displays of "Oil-Dri," a floor-sweeping compound, were made by the manufacturers, Oil-Dri Co. of America, and also by the company's Chicago distributor, Safety Floor Products. Surety Mfg. Co., Chicago, likewise

promoted their "Absorb-Oyl" brand of floor sweeping compound.

Mine Safety Appliances Co., Pittsburgh, showed "Fend," a protective hand cream, and the Dianol Co., Kalamazoo, Mich., pharmaceutical house, offered "Q-V" protective cream, along with their other products.

Lien Chemical Co., Chicago, had a large display of their line of soaps, disinfectants and other sanitary prod-

ucts, while the Ludwig Wilson Co., Chicago, concentrated on one product, "Mer-kil P C 15," an antiseptic for ringworm and athlete's foot, for which they are Chicago distributors.

Walter G. Legge Co., New York, showed non-slip floor treatment materials, plastic stair treads and other products with safety features.

Of general interest to all industrialists was the extensive showing of women's protective work clothes, industrial gloves and shoes, asbestos apparel, goggles, first aid equipment, fire protective equipment and other items for promoting safe operating conditions for industrial workers.

## Operation of Mobile Laundries

LAUNDRY soap is a definite factor in building morale of our fighting forces on the battle fronts, George P. Hebard, Moline, Ill., industrialist, asserted at the fifteenth annual Tri-State Hospital Assembly in Chicago last month. Addressing a conference of hospital laundry managers, Mr. Hebard gave the first authorized public account of the operations of mobile laundry units in the various battle zones.

Each of the roving laundries is self-contained on large 10-ton trailers equipped with all necessary laundering facilities. A unit can handle 6,700 lbs. of laundry a week and the sixteen units comprising a company can do the washing for 40,000 to 50,000 men in seven days. Suds and rinses are used in approximately the same formulas as in commercial laundries, he stated. The soap used he described as suitable for hard or soft water, acid or alkaline and hot or cold. To the liberal use of soap employed in these laundry outfits to keep the soldiers clean and in good health he ascribed "some share of our success on far-flung battlefields."

Among the more than 100 commercial exhibitors were several manufacturers of surgical soaps, disinfectants, detergents and other sanitary chemicals. Ludwig Wilson Co., Chicago, exhibited four products of their own manufacture, including "Golden Glow," a neutral vegetable oil soap,

"Super Chinex" compound for dish-washing machines, "Turkoy" for washing walls, floors, bath tubs, glassware, etc., and "Wil-Glisson," wax for floor treatment. Featured also was "Mer-Kil" disinfectant. H. M. Sheppard was in charge, assisted by Edwin Wilson, E. J. Taylor and Wm. F. Hatch, the latter as representative of Mer-Kil Products Co.

Huntington Laboratories, Huntington, Ind., showed "Germa-Medica" surgical soap, "Baby-San" liquid castile soap, "San-Pheno V" disinfectant and the Levernier foot pedal soap dispenser, M. W. Levernier in charge, assisted by E. J. Levernier.

Midland Laboratories, Inc., Dubuque, Ia., had a display of surgical and nursery soaps, disinfectants, germicides, dispensers for alcohol and soaps. C. F. Hillyard, vice president, in charge, assisted by Walter L. Brown and Lee S. Jacobi.

J. B. Ford div. of Wyandotte Chemicals Corp., Wyandotte, Mich., displayed detergents for sanitary maintenance operations and for laundry and kitchen use. John L. Sullivan, Chicago sales representative, in charge.

Vestal Chemical Laboratories, St. Louis, featured "Septisol" surgical soap, floor maintenance materials and a new plastic dispenser with foot pedal control. F. C. Freesmeier, sales manager, in charge.

## crystal gazing with PQ silicates . . .

PLANNERS of post-war products and processes, look into our "crystal"—this soluble glass. You'll see a variety of useful arts now being practiced in industry with the silicates, colloidal and crystalline. And there are other uses too, still fresh from the patent office.

In the list of 50 different soluble silicates, available from PQ, get the val-

uable properties of colloids, adhesives, binders at very low cost. Besides the silicates you use in soap and detergent manufacture, other grades can serve you efficiently and economically for such purposes as hardening concrete floors, grease-proofing packages, sealing fiber shipping containers.

Any time that you want more infor-

mation about silicates, their properties and applications refer to Bulletin 17-1. If you don't have a copy, let us send it to you without cost.

### PHILADELPHIA QUARTZ CO.

Dept. B, 129 South Third Street, Phila. 6, Pa.  
Chicago Sales Office: 205 West Wacker Drive  
Distributors stocks in over 65 cities • 9 PQ Plants

*Sodium Silicate  
Anhydrous Glass . . .*



### PQ SILICATES OF SODA

WORKS: Anderson, Ind. • Baltimore, Md. • Chester, Pa. • Gardenville, N. Y. • Jeffersonville, Ind. • Kansas City, Kans. • Rabway, N. J. • St. Louis, Mo. • Utica, Ill.

### **Detrex Enlarges Organization**

Detrex Corp., manufacturers of industrial cleaning equipment and materials, Detroit, have enlarged two eastern sales and service offices and added another in the midwest in addition to establishing in Detroit new, larger branch headquarters. A number of personnel changes and additions have been announced as a result of this policy of expansion, according to the firm.

R. W. Pflug, formerly manager of sales and service in the firm's north central region, has been advanced to manager of the company's central regional territory, which includes Michigan, Ohio, Indiana, Kentucky and West Virginia; with headquarters in Dayton.

Eastern headquarters are now located in the Empire State Building, New York, under the supervision of Stanley A. Harris, manager. The Philadelphia branch office has been moved to 12 So. 12th St., with Wayne Gaddy as manager. A new branch office for Indiana has been opened in Indianapolis, where Charles M. Munns is manager.

### **OCD Safety Award to P. & G.**

The wartime plant protection program of the Proctor & Gamble Co. has been given national recognition by the Office of Civilian Defense, which recently conferred a National Security Award on the company's plants at Ivorydale, St. Bernard and St. Louis. The award was established to give public recognition to industrial plants for outstanding achievement in protecting employees, plant facilities and production schedules against wartime hazards. No other soap manufacturing company in the United States has been similarly honored, the P. & G. company asserts.

### **Monsanto Advances O'Neal**

E. A. O'Neal, Jr., plant manager of Monsanto Chemical Co.'s Trenton, Mich., plant since Sept., 1940, was recently advanced to production manager of the phosphate division of the company, with headquarters in Anniston, Ala. He succeeds Felix N. Williams, recently named general manager of Monsanto's plastic division in Springfield, Mass.

### **Two Victor Appointments**

Irwin E. Smith, for twenty-one years with the firm was recently appointed sales manager of Victor Chem-



IRWIN E. SMITH

ical Works, Chicago, it was announced recently. Another Victor appointment is that of Elwood M. Meyers, who has been with the company since 1941, and who was recently placed in charge of advertising. Before joining the firm, Mr. Meyers had spent more than eleven years in selling and sales promotion, more recently with Wilson & Co., Chicago. Mr. Smith, newly appointed sales manager, is a member of the Chicago Perfumery Soap and Extract Association and the Chicago Drug & Chemical Association. He has served on the boards of directors of both.

### **Bayard Colgate on NWLB**

S. Bayard Colgate, chairman of the board of Colgate-Palmolive-Peet Co., Jersey City, N. J., an alternate industry member of the Regional War Labor Board, New York, is reported leaving the regional board to become a substitute industry member of the National War Labor Board.

### **John Chew's Son Decorated**

Lieut. Robert R. Chew, son of Mr. and Mrs. John A. Chew, New York and Berryville, Va., was awarded the Silver Star for gallantry in action in the Solomons Islands on Jan. 30. Lieutenant Chew, son of the head of the chemical firm bearing his name, John A. Chew, Inc., New York, is an artillery observer. He received his award for aiding wounded men under fire. He has been in the Solomons for about six months.

### **First Lever Toronto Head Dies**

James Edwin Ganong, 76, first president of Lever Brothers, Ltd., Toronto, died there, May 6. Born in Boston, the son of Mr. and Mrs. James Harvey Ganong, he was a graduate of the University of New Brunswick. After joining the firm of Ganong Bros., confectioners, St. Stephen, New Brunswick, Mr. Ganong later became associated with St. Croix Soap Co. In 1912, he formed Canadian Soaps, Ltd., which in 1914 amalgamated with Lever Brothers, and he became president. Mr. Ganong resigned this office in 1926 and a year later he was appointed to the Toronto Board of Harbor Commissioners. In 1936 he was made a director of the Toronto Industrial Commission. He is survived by his widow, Anna Webb Ganong of Toronto; a son, Col. James Edwin Ganong, with the 48th Highlanders, who has been overseas four and one-half years; a daughter, Mrs. Henry Eaton of Calais, Me., and two sisters and two brothers.

### **Irma Ericsson Window Judge**

Irma Ericsson, advertising manager of Shulton, Inc., New York soap and toiletries firm, is serving as one of the judges in the National Window Display Contest of the Fifth War Bond Drive which starts June 12.

### **Katz Shows Florasynth Cinema**

Dr. Alexander Katz, president of Florasynth Labs., Inc., New York, essential oils and aromatic chemicals, recently showed motion pictures of the company's New York plant following a company banquet in San Diego for friends and representatives of the firm. Florasynth's work in Mexico was also related at the gathering.

### **Enjoin Chi. Scouring Pad Mfrs.**

Three Chicago wholesalers of scouring pads were targets of action filed by the Office of Price Administration in federal district court at Chicago recently, seeking injunctions to restrain them from further sales until they comply with government regulations for keeping records. Defendants are Our Own Kleen Rite Scouring Pad Co., Smolin Sales Co. and Randolph Sales Co.



**OUR BEST-DRESSED MEN  
WEAR NO HOSE THIS YEAR!**

The Chemical Warfare Service of the Army has provided this style note. ★ To lighten the load of paratroops, armored forces, assault infantry and amphibious troops, the Chemical Warfare Service has developed a streamlined gas mask which does away with the hose by attaching the canister directly to the facepiece.

It's a design that results in a gas mask lighter to carry, more comfortable to wear...and gives the soldier greater freedom of action. Crown Can is making the canisters for this new model... just as Crown Can made them for the older types.

Crown is proud of its part in the development of this new gas mask. For the duration, the whole Crown organization places the needs of our armed forces first... whether those needs are for weapons of war or for the cans to carry food to the front.

**CROWN CAN COMPANY**

NEW YORK • PHILADELPHIA

Division of Crown Cork and Seal Company, Baltimore, Md.



★ ★ ★ CROWN CAN ★ ★

# BIDS AND AWARDS

## Low Metal Polish Bids

Among the low bids received in a recent opening for miscellaneous supplies by the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., were the following on two lots of metal polish of (1) 17,000 pints for Boston and Philadelphia, and (2) 55,085 pints for western yards: J. L. Prescott Co., Passaic, N. J. Lot 1, both items, 5.75 cents and Lot 2, all items, 5.75 cents fob Passaic; R. M. Hollingshead Corp., Camden, N. J., Lot 1, both items, 6.74 cents and Lot 2, all items, 6.74 cents fob Camden; International Metal Polish Co., Indianapolis, Lot 1, both items, 7.4 cents and Lot 2, all items, 7.4 cents (wooden cases, 8.65 cents) fob Indianapolis; Scranton Chemical Co., Scranton, Pa., Lot 1, item 1, 7.75 cents, 1a, 6.95 cents, total \$1,237.50, fob Boston and Philadelphia; and Fuld Bros., Baltimore, Lot 1, item 1, 8.4 cents, Lot 2 all items, 8.5 cents, fob Baltimore for Lot 1 and fob Los Angeles for Lot 2.

## Navy Scouring Powder Bids

The following low bids were received on two lots of scouring powder, one of 126,200 pounds for eastern yards and another of 39,776 pounds for western yards in a recent opening for miscellaneous supplies by the Navy Department, Washington, D. C.: Chemical Mfg. & Distributing Co., Easton, Pa., Lots 1 and 2, all items, 2.38 cents, fob Easton; Chemo-Puro Mfg. Corp., Long Island City, and Rokeach & Sons, Brooklyn, submitted identical bids for 2.5 cents on all items in Lots 1 and 2; Kay Tee Products Co., Brooklyn, Lots 1 and 2, all items, 2.75 cents; and Lavo Co. of America, Milwaukee, Lots 1 and 2, all items 3.47 cents.

## Navy Soap Bids

In a recent opening for miscellaneous supplies by the Navy Department, Washington, D. C., the following low bids were submitted on various quantities of soap and soap powder:

Procter & Gamble Distributing Co., Cincinnati, Lots 1 and 2, 6,720,000 pounds of soap powder, 3.68 cents, fob Port Ivory, St. Bernard and Dallas (the opening calls for 5,980,000 pounds of soap powder in Lot 1 for eastern yards and 7,595,428 pounds of soap powder for western yards); Chemical Manufacturing & Distributing Co., Easton, Pa., Lot 3, 3.125 cents for 500,000 pounds of soap powder in fibre drums, fob Easton (the opening calls for 2,998,000 pounds of soap powder for Oakland, Calif.); U. S. Soap Manufacturing Co., Philadelphia, Lot 4, 8 cents; Procter & Gamble Distributing Co., Cincinnati, Lot 5, 10,000 pounds, 11.06 cents, fob Ivorydale, (opening calls for 25,000 pounds of soap powder); Pacific Soap Co., Los Angeles, Lot 6, item 1a, 10.5 cents fob, San Francisco.

## Disinfectant Awards to Huggins

James Huggins & Son, Malden, Mass., received the awards on two lots of 600 gallons and 1,705 gallons of disinfectant with bids of 68 cents a gallon and 56 cents a gallon respectively for the smaller and larger quantities in a recent opening for miscellaneous supplies by the Treasury Department, Washington, D. C.

## Navy Spray Bid

Lowell Manufacturing Co., Chicago, was the only bidder on 10,000 pest exterminator sprayers in a recent opening for miscellaneous supplies by the New York Navy Yard, New York. Lowell's bid was 28.25 cents.

## Degreasing Compound Bids

In a recent opening for miscellaneous supplies by the New York Navy Purchasing Office, New York, the following bids were received on 600 gallons of non-inflammable and non-toxic degreasing compound: Fuld Bros., Baltimore, 45 cents, including 12 returnable drums at \$1.10 each; Sanitary Soap Co., Paterson, N. J., 60 cents;

Ampion Corp., Long Island City, N. Y., 75 cents, including 12 returnable drums at \$2 each; and Penetone Corp., Tenafly, N. J., \$1.415.

## Phila, Navy Yard Awards

Brilco Laboratories, Brooklyn, received the award on an unspecified quantity of rust preventive compound that came to a total of \$525 in a recent opening for miscellaneous supplies by the Philadelphia Navy Yard, Philadelphia. In another recent Philadelphia Navy Yard, Philadelphia, opening, J. L. Prescott Co., Passaic, N. J., with a total bid of \$1,132 received the awards on 15,000 cans of liquid metal polish.

## Insecticide Awards to D & O

Dodge & Olcott Co., New York, received awards on an unspecified quantity of insecticidal dust totaling \$170 and an unspecified quantity of rotenone, totaling \$152.10 in recent openings for miscellaneous supplies by the Department of Agriculture's division of Purchases, Sales and Traffic, Washington, D. C.

## Continental Can Names Managers

Three new district sales managers have been announced, as a result of recent re-allocation of sales territories, by Continental Can Co., New York, it was made known recently. On the west coast, W. W. Hodgson, jr., was appointed to the San Francisco district; R. W. Franz to the Los Angeles district and William G. Booher to the Michigan and Illinois territory of the Chicago district. Mr. Hodgson and Mr. Franz will be in charge of sales for the general and packer's can lines.

## Antioxidants

Antioxidants are especially important at the present time in preventing waste in fats. Some of these substances link up with the vitamins and so are especially useful in edible fats, although the two activities are seemingly not parallel. So far the quinols, pyrogallol and dienol derivatives have turned out to be the most effective and practical fat stabilizers. F. Bergel. Chem. and Ind. 14, 127-8 (1944).

*American Made*

*by*

**GEORGE LUEDERS & CO.**

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NEW

# TRADE MARKS

The following trade-marks were published in the May issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

## Trade Mark Applications

**CUSTOM**—This in upper case, extra bold shadow letters for shaving cream. Filed Sept. 6, 1943 by Custom Co., Los Angeles. Claims use since May 17, 1941.

**K-37**—This in upper case bold letters for cleaning materials for laundry and textile use and industrial metal cleaning. Filed Dec. 28, 1943 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since Mar. 20, 1942.

**MUR-DENE** — This in upper case, black bold letters for washing powders. Filed Jan. 28, 1944 by Murphy Chemical Corp., New York. Claims use since Jan. 28, 1942.

**PIED PIPER**—This in upper case bold letters for soap and cleansing compound. Filed Feb. 19, 1944 by Safety Cleaners Co., Saginaw, Mich. Claims use since Nov. 3, 1943.

**CAMAC** — This in upper case, bold letters ascending to the letter "m" and descending from it for general purpose polish. Filed Jan. 22, 1944 by Camac Co., Cambridge, Mass. Claims use since Mar., 1943.

**KENU** — This in extra bold, upper case letters for an all-purpose cleaning and washing powder. Filed Feb. 10, 1943 by Kelite Products, Inc., Los Angeles. Claims use since June, 1940.

**NA-NOR**—This in stencil, upper case letters for floor cleaning compound. Filed Feb. 21, 1944 by C. A. Nash & Son, Norfolk, Va. Claims use since 1940.

**QUASOL**—This in upper case, bold stencil letters for solvent cleansers

and detergents. Filed Feb. 29, 1944 by Quaker Chemical Products Corp., Conshohocken, Pa. Claims use since Aug., 1927.

**WHISPER**—This in upper case, bold letters for soap. Filed Mar. 22, 1944 by Lucien LeLong, Inc., Chicago. Claims use since Sept. 1, 1941.

**CASCADE**—This in upper case, medium letters for shampoo. Filed Nov. 25, 1942 by National Mineral Co., Chicago. Claims use since Sept. 8, 1941.

**BONAT HAROL**—This in upper and lower case script and regular, reverse and black and white letters for shampoo. Filed Nov. 18, 1942 by Samuel Bonat & Bros., New York. Claims use since Oct. 15, 1943.

(A drawing of four humorous looking insects)—These above a horizontal line for insecticide spray. Filed Feb. 18, 1944 by Socony-Vacuum Oil Co., New York. Claims use since Jan. 1, 1938.

**SPARCALITE**—This in upper case letters for dry cleaning powder for dish washing, etc. Filed Apr. 1, 1942 by Russell Chemical Co., Cleveland. Claims use since Apr. 1, 1939.

**STERINSE** — This in extra bold, upper case letters, beneath the drawing of a microscope within a circle, for general cleaning compound. Filed Dec. 27, 1943 by Savogran Co., Boston. Claims use since Feb. 8, 1944.

**"PENNsalt E.C. 10"**—This in upper case, bold letters for solvent emulsion cleaners for metal surfaces, etc. Filed Jan. 19, 1944 by Pennsylvania Salt Manufacturing Co., Philadelphia. Claims use since Aug. 10, 1943.

**SUEDE ACE** — This in upper case, bold letters above the drawing of an inverted spade within which is the letter "a" for shoe dressings. Filed Feb. 12, 1944 by Old Dutch Industrial Products Co., Kearny, N. J. Claims use since Oct., 1942.

**2 IN 1**—This in upper case, bold black letters, the word "in" and the figure "2" all superimposed on a large

figure "1," for leather dressings and polishes. Filed Mar. 10, 1944 by Best Foods, Inc., New York. Claims use since May 7, 1943.

**D-D**—This in upper case, extra bold letters for soil fumigant. Filed Feb. 26, 1944 by Shell Union Oil Corp., San Francisco. Claims use since Jan. 21, 1944.

**SIMPLEX**—This in extra black, bold upper case and lower case script letters for brushless and lather shaving cream. Filed Apr. 22, 1943 by Fannington Products Co., Detroit. Claims use since Apr. 3, 1943.

**VERV** — This in upper case, extra bold, black letters for soap impregnated paper. Filed Mar. 17, 1944 by Velso Products Co., Burlington, Ia. Claims use since Jan. 1, 1943.

**LOSHOL** — This in upper and lower case, extra bold, black letters for soaps and shaving cream. Filed Mar. 21, 1944 by Lightfoot Schultz Co., New York. Claims use since Mar. 1, 1944.

**PHYLLIS DARE'S TRI-THIOL SULPHONATE**—This in upper case bold and extra bold letters, for soapless cleanser. Filed Nov. 8, 1943 by Phyllis Dare, Los Angeles. Claims use since Nov. 25, 1942.

**33**—This in upper case, bold figures for cleaning and detergent material. Filed Dec. 4, 1943 by Wyandotte Chemical Corp., Wyandotte, Mich. Claims use since Sept., 1933.

**PERHAPS**—This in upper case, bold letters above the French word for "perhaps" in parenthesis—"peut-être" for soaps. Filed Mar. 10, 1944 by Haviland Laboratories, Inc., New York. Claims use since Mar. 2, 1944.

**LECO**—This in upper case, extra bold stencil letters for non-slip floor polish. Filed Mar. 23, 1944 by Walter G. Legge Co., New York. Claims use since Mar. 1, 1938.

**SAFCO** — This in upper case, extra bold, stencil letters for floor polish for asphalt tile flooring. Filed Mar. 23, 1944 by Walter G. Legge Co., New York. Claims use since Mar. 1, 1938.

## Trade Marks Granted

406,747. Disinfectant with cleansing properties. Filed by W. H. Plunkett, Chicago, Feb. 3, 1942. Serial

**MORE  
FOR THE BATTLE FRONT...  
LESS FOR THE HOME FRONT**

"No soldier in the world, whether he is in the armies of our allies or our enemies, receives better medical attention, on and off the battlefield, than the man who fights for America." — Surgeon General, U. S. Army

Into the manufacture of the vast quantities of ointments, salves, lotions, creams and similar products needed by the Medical Corps go great quantities of Lanolin U.S.P.

To be certain that war needs are met first, Lanolin, Degas and other grades of Wool Grease have been placed on allocation.

Some manufacturers have been asked to do without or with less Lanolin and Wool Grease so that it can be used for this and many other vital war purposes to help hasten the day of victory. The sooner it comes, the faster you can have all the Nimco Brand Lanolin, Degas and Wool Grease you want.

**N. I. MALMSTROM & CO.**

**LANOLIN** • Anhydrous U.S.P. • Hydrous U.S.P. • Absorption Base • Technical  
DEGRAS • Neutral and Common • Wool Greases

America's  
Largest  
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**LANOLIN and WOOL GREASES**  
HELP FIGHT FOR VICTORY  
**PRACTICE CONSERVATION**  
of Essential Materials  
AND SUPPORT THE FIGHT

No. 450,687. Published Feb. 8, 1944. Class 6.

406,756. Insect repellents. Filed by Gaby Co., Philadelphia, Aug. 25, 1943. Serial No. 462,992. Published Feb. 8, 1944. Class 6.

406,777. Preparation for repelling and killing moths, larvae, and for reducing humidity, stopping dampness and eliminating musty odors. Filed by Hill Manufacturing Co., Atlanta, Nov. 15, 1943. Serial No. 464,994. Published Feb. 8, 1944. Class 6.

406,802. Toilet soaps. Filed by Lightfoot Schultz Co., New York, Dec. 14, 1943. Serial No. 465,757. Published Feb. 15, 1944. Class 4.

407,803. Toilet soaps. Filed by Lightfoot Schultz Co., New York, Dec. 14, 1943. Serial No. 465,759. Published Feb. 15, 1944. Class 4.

407,804. Toilet soaps. Filed by Lightfoot Schultz Co., New York, Dec. 14, 1943. Serial No. 465,760. Published Feb. 15, 1944. Class 4.

406,912. Liquid spot remover. Filed by L. H. Secombe & Sons, Ansonia, Conn., Sept. 10, 1943. Serial No. 463,312. Published Feb. 29, 1944. Class 4.

406,919. Cleaning and cleansing materials. Filed by Wyandotte Chemicals Corp., Wyandotte, Mich., Oct. 14, 1943. Serial No. 464,153. Published Feb. 29, 1944. Class 4.

406,960. A detergent and scouring preparation. Filed by Atlas Color & Chemical Co., Boston, Dec. 9, 1943. Serial No. 465,648. Published Feb. 22, 1944. Class 4.

406,977. Bubble bath preparation. Filed by Lehn & Fink Products Corp., Bloomfield, N. J., Dec. 24, 1943. Serial No. 466,047. Published Feb. 15, 1944. Class 6.

407,047. Soap. Filed by Packers Tar Soap Inc., Mystic, Conn., Oct. 22, 1943. Serial No. 464,353. Published Mar. 7, 1944. Class 4.

407,074. Germicide, bleach and deodorant. Filed by National Milling & Chemical Co., Philadelphia, Nov. 23, 1943. Serial No. 465,230. Published Feb. 29, 1944. Class 6.

407,119. Toilet soaps. Filed by Cheramy, Inc., New York, Jan. 5, 1944. Serial No. 466,323. Published Mar. 7, 1944. Class 4.

## WASHINGTON LETTER (From Page 39)

38), cut the weight of their container board to the limit, in short redesigned their containers to provide the maximum container board saving, and were still unable to ship in their permitted quotas of containers the quantities of soap which WFA permits them to make, that some way would be found to solve their shipping problem. To date, these assurances are still in the verbal, and perhaps in the forgotten stage, for up to this point all hardship appeals by soap makers, (and there have been plenty) have been denied.

Incidentally, as if soap makers and other container users did not already have enough in the paper situation to cause them concern, there is a new Paper Board Conservation Order in prospect,—to be issued early in June. It will set up quotas and restrictions on use of paper board, much as L-317 governs exterior shipping containers.

### Allocation Control for Abrasives

New restrictions are reported this month on feldspar and bentonite which have been made subject to inventory control. No more than "minimum practicable working inventories" of either material may now be maintained.

### Deny Pine Oil Allocations

The War Production Board, during May, found it necessary to deny all applications for allocation of pine oil except those filed by holders of government contracts. Producers of pine oil were reported to have been forced to reduce production during April because of inability to get material out of the woods. Inventories of pine oil, which have been cut to a bare minimum, will now have to be built up once more before allocations can be increased.

### OPA Clarifies Soap Ceilings

A new amendment No. 2 to MPR 391 was issued by the OPA on May 5, clarifying the position of premiums in relation to their effect on permitted maximum soap prices. When MPR 391 was first issued in May, 1943, it set ceiling prices for soaps and cleansers at January, 1943, levels, and required that cash and quantity dis-

counts in effect in January, 1943 must be continued. Since the term "buyer" was not defined, some confusion arose. This is now clarified by the new amendment which provides that redemption or premium plans "wherein the manufacturer offers to redeem a tag, wrapper, coupon or other evidence of a purchase of his product, for something of value, whether cash, commodity, 'trading stamp' or similar right, or a service, shall be deemed a cash or quantity discount to the buyer . . . whether the buyer purchases directly from the manufacturer or indirectly through a wholesaler, distributor, or retailer."

### Smaller Cans for Hand Paste

An amendment to M-81, issued May 16, permits manufacturers of hand paste soap to pack smaller sized containers. It is now permitted to pack as little as ten ounces in a can. The previous minimum pack was one pound. The packing quota on blackplate still remains at 125 per cent of 1942 metal use.

### Many Soap Orders Still in Effect

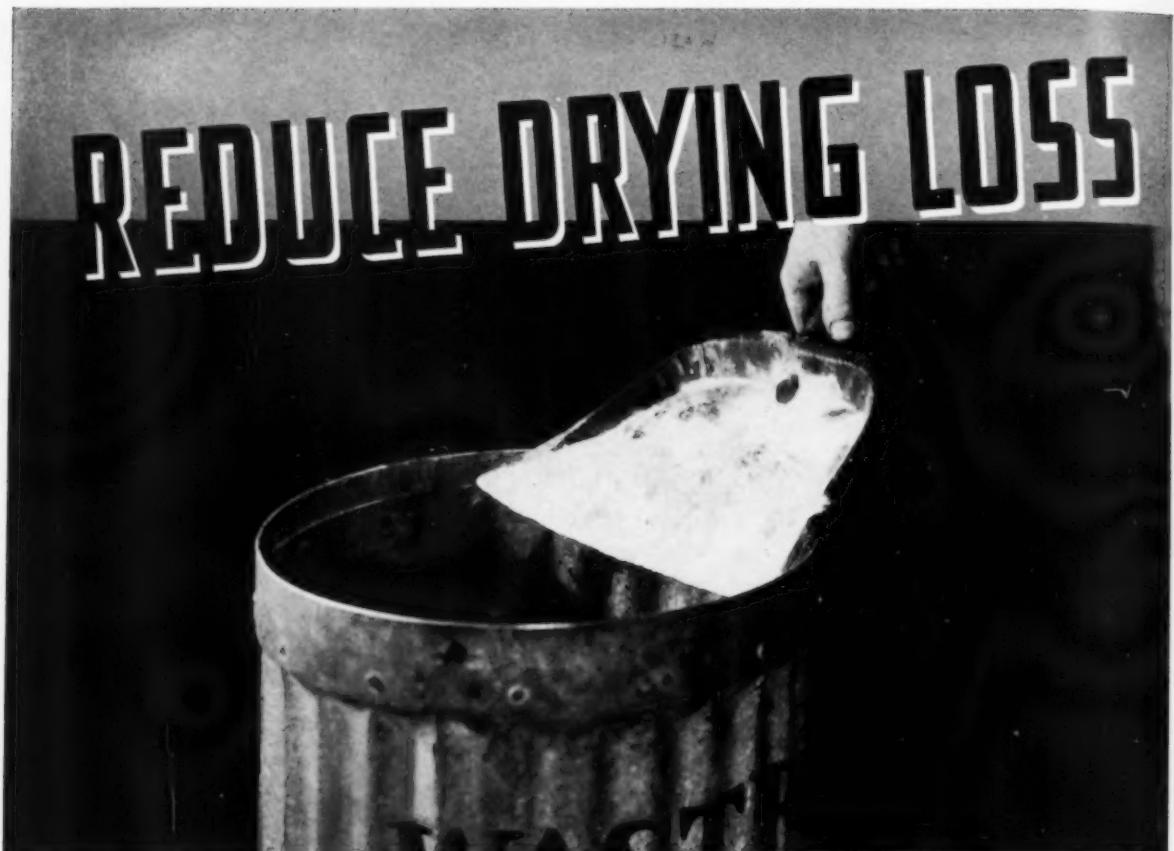
Some soap makers seem to have gathered the mistaken idea that because a number of the WFA orders affecting them have been suspended or liberalized that all such restrictions have been lifted. This is not the case, however, as many such orders still remain in effect. For example, revocation of WFO-34 covering distribution and use of glycerine has no effect on order WFO-33 governing glycerine recovery, all provisions of which still remain in effect.

### Ex-C.P.P. Executive Dies

Thomas G. McReynolds, formerly connected with the advertising and sales department of Colgate-Palmolive-Peet Co., Ltd., Toronto, died last month after a short illness. He had left C.-P.-P. a few months ago to join the Toronto staff of Young & Rubicam advertising agency.

### Cudahy Token Holder Premium

Cudahy Packing Co., Chicago, is offering a combination token and ration book holder as a premium to purchasers of their "Old Dutch" cleaner. The holder is available for 15 cents plus the container label.



## ONLY THE PROCTOR FLAKE SOAP SYSTEM REDUCES DRYING LOSS TO ABSOLUTE MINIMUM

Losses, often difficult to evaluate, are eliminated or greatly reduced by the Proctor Flake Soap System. Large quantities of scrap from older type chilling machines and dryers required reboiling. Frequently, this scrap had to be used in lower grade products. Fines that sifted through the conveyors were carried by the air stream and deposited on the floor of the dryer or were carried out through the exhaust. Such losses have been virtually eliminated by the Proctor System. Further loss is prevented by decreasing the possibility of contact with foreign objects, burning of soap, discoloration or other contamination. In every phase of this system, absolute purity of the product is maintained and the many disadvantages of contamination are successfully eliminated.

**NOW IS THE TIME**

It is none too soon for you to be giving careful consideration to your postwar equipment needs. A little time-out now will undoubtedly save you a considerably more costly "time-out" period when the conversion comes. Now is the time to let Proctor engineers assist you in planning for the new machinery that will help you increase your postwar profits.



**PROCTOR FLAKE SOAP SYSTEM**  
*Manufactured by*  
**PROCTOR & SCHWARTZ • INC. • PHILADELPHIA • PA.**

## RAW MATERIAL

# MARKETS

As of May 31, 1944

THE high rate of lard production continues to occupy the leading place in news of the oils and fats situation. In some respects the lard supply picture is typical of the fats and oils picture as a whole at the moment.

### All Lard Restrictions Are Off

Among developments affecting the lard picture during the month was the news that the Office of Price Administration had removed lard from the rationing program altogether in the masterfully understated belief that the present supply is "adequate to meet all civilian needs." This ruling will be of principal interest to industrial and institutional consumers since lard for the general consuming public has had

no point value on it since May 3. From the industrial or institutional consumer's point of view, the ruling is of interest since it lifts the previous thirty day supply restriction on lard purchases. This action is expected to help relieve the lard storage situation that has been growing more acute, with the high rate of production and lower rate of demand. Large government holdings are said to be causing "concern" even though fair sized shipments are now being made. In addition to removing the various restrictions on lard, ceiling prices are reported no longer existing for this commodity because of the large supply. Cash lard is being offered at \$13.15 a hundred pounds, which is 65c below ceiling, while loose lard is said to be available at \$12 a hundred pounds.

### Fats and Oils at High Level

At the same time, in its summary of the fats and oil situation, the Department of Agriculture reports that "stocks of fats and oils are at the highest level since the spring of 1941." Lest this statement be interpreted too optimistically, the Department of Agriculture adds the proviso: "on the basis of an expected domestic and export disappearance in 1944 of around 12 billion pounds, however, stocks are still below the normal level indicated by the prewar ratio between stocks and total annual disappearance." Nevertheless, it is estimated that about two months ago stocks were between 600 and 700 million pounds greater than the low point of 1,888 million pounds reached Oct. 1, 1943, all of which the Department of Agriculture says re-

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If you consume fatty acids in your manufacturing process or make a product in which fatty acids may be used to replace scarce materials, it will pay you to investigate Hardesty as a source of supply. Through advanced manufacturing methods Hardesty produces many specialized products with unusual chemical characteristics.

RED OIL  
(Saponified)

STEARIC ACID  
(Distilled)

### ANIMAL AND VEGETABLE FATTY ACIDS

Cotton Red Oil Fatty Acids  
Palm Oil Fatty Acids

Hydrex

Corn Oil Fatty Acids  
Specialty Fatty Acids  
WHITE OLEINE

GLYCERINE

PITCH

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for perfuming

*Soaps, Shaving Creams and Shampoos*  
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*a sample is ready for you*



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**IN PLACE OF ROSIN**

*Use*

**UNITOL "R"**  
**THE REFINED TALL OIL**  
**(Fatty Acids and Rosin Acids)**

*Available at Low Cost*

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**UNION BAG & PAPER CORPORATION**

By-Products Department

Woolworth Building, New York 7, N. Y.

fects: 1.) a record high output of fats and oils, 2.) government restrictions on civilian uses of fats and 3.) difficulties in early 1944 in holding to export schedules.

Against the background of drastic cuts in consumption of packaging materials for soap manufacturers, for one group, it seems possible that fewer fats and oils may be used in producing less soap for want of something in which to pack it.

A bill has been introduced in the House of Representatives to continue for another two years the existing suspension of the extra two cent processing tax on other than Philippine coconut oil. The bill, H. R. 4837, was proposed by Herman P. Eberharter, of Pennsylvania, and would extend the current law that expires June 30, 1944.

#### M-161 Amended

Through amendment to M-161, which exempts certain products from inventory restrictions and maintenance, repair and operating supplies quotas, diatomaceous earth is added to

the items to which inventory restrictions of Priorities Regulation No. 1 do not apply. Bentonite, feldspar and pyrophyllite have been removed from the list of items exempted from inventory regulations, owing to the fact that supplies of these items have become more critical, the War Production Board announced recently. In addition to these changes in the order, administrative jurisdiction over the order has been transferred to the Inventory Control Branch of the Redistribution Division from the Miscellaneous Minerals Division.

#### Formaldehyde Prices Cut

A reduction in the price of formaldehyde (U.S.P. solution) was announced last month by E. I. du Pont de Nemours & Co., Wilmington, effective May 6. Cuts were made possible through economies in manufacturing operations, the announcement stated. Among the newly announced prices listed on the schedule were: drums (475 pounds net)—4.90c to 5.40c; barrels (450 pounds net)—5.50c to

6.00c; kegs (200 pounds net)—6.50c to 7.00c; kegs (125 pounds net)—6.75c to 7.25c and kegs (60 pounds net)—7.75c to 8.25c.

#### Essential Oils Outlook

The essential oils and aromatic chemicals market was characterized last month by continuing shortages in containers as well as in some of the oils. Price changes were few and imports in any great quantity were not reported. At the same time, it was announced that a committee of essential oil men had been set up by the War Food Administration for the purpose of studying wage differentials in areas where other industries can pay higher wages than the essential oil industry, thus causing an acute labor shortage and consequent production cut in essential oils. The possibility of making wage adjustments in the essential oil industry is under consideration, it is reported. Containers for both domestic use and use in importing Italian oils are becoming increasingly short in supply.

## LEHMANN Mills Are Paying Big Dividends

A LEHMANN  
SOAP PLODDER  
designed for  
post-war era of  
higher efficiency



**I**N more than 200 plants throughout the nation, LEHMANN Equipment is undergoing the rigid test of increased wartime production. It is the pride of the makers that these machines are "delivering the goods" unfailingly and thereby giving testimony to the excellence of their design and workmanship. Owners of LEHMANN Equipment are reaping large dividends in the form of continuous, efficient production.

Is this not an important thought to bear in mind against the time when we can make machines again for you?

The LEHMANN Repair and Maintenance Staff always is available to keep your LEHMANN machines at their highest productivity.



The Standard for Quality  
in Machinery

**J. M. LEHMANN COMPANY, INC.**  
MAIN OFFICE & FACTORY • LYNDHURST, NEW JERSEY



# The Swing is to **Nuchar!**

ACTIVE CARBON

The swing is to Nuchar Active Carbon because it removes *by adsorption* the impurities that affect oil and soap production. Nuchar has many other advantages that make it first choice of carbons in the purification field. Nuchar Active Carbon has long been used for purification of edible fats used for the manufacture of shortenings, salad oils, etc., where color, odor and keeping qualities are of prime importance.

Nuchar Active Carbon is ever growing in popularity as a means of purification of inedible fats for soap manufacture. This popularity is due to the fact that a Nuchar treated fat produces a soap of improved stability, as measured by odor, color reversion and spotting. Tests in our laboratories indicate that Nuchar Active Carbon has practically unlimited possibilities for the economical removal of impurities. To anyone interested in improving methods of processing by means of active carbon, the services of our Carbon Research Laboratory are available.

*Nuchar Active Carbons ★ Abietic Acid ★ Snow Top Precipitated Calcium Carbonate ★ Liquid Caustic Soda ★ Chlorine ★ Lignin ★ Liquro Crude Tall Oil ★ Indusoil Distilled Tall Oil ★ Tall Oil Pitch ★ Sulphate Wood Turpentine*

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**INDUSTRIAL CHEMICAL SALES**

DIVISION WEST VIRGINIA PULP & PAPER COMPANY

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844 LEADER BLDG. CLEVELAND 14, OHIO

# PRODUCTION SECTION

## Essential Oil Market Outlook

By Francis T. Dodge\*

Dodge & Olcott Co.

THE problem of purchasing, financing and distributing essential oils and kindred products is if anything more perplexing today than at any time since the present world war commenced in September, 1939. During the first year or two of the war there was a pretty general advance in the price of most essential oils,—particularly the imported oils. During that period it did not require a great deal of judgment to make money in trafficking in most imported essential oils. If one were fortunate enough to be able to purchase goods in foreign lands, and more fortunate in obtaining shipping space, it was a simple matter to make substantial profits.

Then in May 1942 our government imposed price ceilings. In the final analysis this was a wise policy, although in a few cases it has worked definite hardship on American importers and manufacturers where the foreign exporter 5,000 or 10,000 miles away either has never heard of such ceilings or really believes that they are "phony," and continues to ask prohibitive prices. Subsequent to this imposition of ceilings many of the essential oil markets have remained pretty steady, owing chiefly to a very real spot scarcity. Today, however, the picture is exceedingly perplexing. With victory for the allies at least on the horizon, with Madagascar and the neighboring islands again in French

hands, with North Africa, Sicily and parts of Italy at least on the verge of commercial intercourse, importers who thought they had boundless courage when purchasing during 1940-43, are now proceeding to buy goods abroad with all of their fingers crossed and with a degree of uncertainty as to the near future which has been unfamiliar to them in recent years.

To be a little more specific,—the immediate outlook for oils of geranium, vetivert, ylang ylang, etc., is, to say the least, hazy. There are substantial quantities of various essential oils produced in Madagascar, Reunion and the Comore group lying in those islands, but how to get them to the United States and how to finance them is another matter. Beyond this, we are informed by the French Colonial Authorities that they have established, and will continue to maintain, stockpiles for eventual shipments to the mother country if and when shipping facilities are available. This may be three months hence or six or twelve months hence. No one knows. It would be at least human for the island shippers to borrow from these stockpiles and ship to the United States if shipments to France must continue to be postponed.

The activity of British interests in the islands mentioned has had an important bearing on the prices asked for these oils. During 1943, when our government was giving us no encouragement and no help whatsoever in bringing to this country these ad-

mittedly non-essential products, the British Board of Trade was cooperating with English importers and manufacturers in securing and in having dispatched from the producing islands at least a portion of what Britain needed at the time. The only advantage that we Americans gained by this British initiative was the fixing of some sort of price. If London started the ball rolling by bidding \$3.60 per pound net, FOB Saint Denis for geranium, it was not likely that holders in Reunion would sell to America at a lower price.

A few of our importers with commendable initiative sent out in 1943 quite substantial orders for the various oils mentioned above, and after many exasperating delays were finally informed by the French Governor of Madagascar through the Washington representatives that minimum export prices had been established, all of them considerably above the ideas of the importers. After several more months of negotiation American importers have succeeded in purchasing all of the oils mentioned at prices which look reasonable compared to those which have been ruling on the New York market, which is almost bare of stocks. However, the prices in question are usually FOB Madagascar port or FOB Saint Denis. In the case of shipments from Reunion to the USA, two transshipments are frequently involved, one at Tamatave and the other at Durban or Mombasa. Goods may wait at a trans-shipment port for weeks or even months. Therefore the present

\* Based on an address before the Toilet Goods Assn., New York, May 19.

great spread between the prices ruling in the islands and in New York will continue until some proof is received that the oils are actually on their last stage of their journey to this country.

On several occasions the American representatives of the Free French have expressed their conviction, perhaps well founded, that high prices are bound to last for a considerable period. They maintain that after every great war there has been a prolonged spell of inflation, and up to date they have not retreated from this point of view. Apparently their policy is to get all that the traffic will safely bear.

Although the U. S. Army has been in North Africa for about 18 months, practically nothing in the way of essential oils has found its way thence to New York. A satisfactory modus operandi has not yet been worked out by the several Washington bureaus involved to enable us to import with any regularity. Algerian geranium has reached fantastic levels at the source and apparently, wherever the American doughboy has ventured in Algiers or Cairo or in smaller cities, he has impressed the vendors of any type of local perfumery that he is quite indifferent about the prices asked, and behaves accordingly. This general attitude, which no doubt is conspicuous, certainly has at least an indirect bearing on some of our problems.

**A**LTHOUGH the American public was led to believe last summer from reading the newspapers that most of the towns and cities of Eastern Sicily and Calabria had been almost destroyed, it was surprising and encouraging to learn a few months back that goodly stocks of bergamot were being uncovered in caves and subterranean warehouses in and near Reggio. As usual, London got busy before Washington and the flow of oil to England commenced. Efforts are now being made to bring some to The United States at prices which will not be prohibitive. There is a somewhat comic side to the picture in that our army does the purchasing of this article, as well as of Sicilian lemon oil

and orange oil. Fortunately, however, Uncle Sam's soldier boys will not act as final judges of quality. It has been learned that a few of the firms active in the Messina essences before the war are still functioning and it is understood that they will be used to assemble the oils and pass on their quality. So far so good, but let us not expect immediate relief; substantial quantities of bergamot and lemon may not arrive before autumn.

Citronella oil from Java may be one of the *last* articles to reach this country, with the probable exception of Japanese oils like camphor and peppermint (*arvensis*). Even after the Japanese are driven out of Java and Sumatra there is bound to be great delay before we shall begin to receive anywhere near the tonnage of citronella which this country was accustomed to import in pre-war days. While citronella is being produced in Guatemala, Honduras, and other places, we really have to depend on Java for quantity.

Oil palma rosa continues to be quoted at very high levels because of the strong local demand in India itself. Some of us are apt to overlook the fact that India's great advance of late as a manufacturing nation has resulted in an increased buying power in its huge population which can conceivably compete with the purchasing power of some European countries. As a matter of fact many American essential oil dealers have enjoyed two or three years of considerable export business to India, limited only by their ability to obtain in this country the desired items.

Lemongrass oil after a few flurries earlier in the war has been coming through from the Malabar Coast of India reasonably freely so that the several derivatives therefrom are not at a prohibitive price level. Manufacturers of ionones and methyl ionones are handicapped because of uncertain labor conditions, but this phase is so general in all lines of trade that it is almost superfluous to mention it.

The powers that be in Spain are now realizing that they backed the wrong horse earlier in the war and are listening attentively, although per-

haps unwillingly, to the advances and arguments of the Americans and the British. As a result, among other articles, the flow of rosemary and spike lavender from Spain to New York has been much more even than it was two years ago. Those two oils have filled an urgent need in many quarters when other and better oils have been unobtainable.

The importation of rosewood oil from Brazil has been very erratic due to international trading problems touching large articles like rubber. For an extended period *no* permission to import rosewood oil was granted, and then suddenly over 250 tons left Brazil for the United States. The demand for this large quantity has shown how light stocks were in America. We see no reason why more of this oil will not continue to come forward but it is not yet at all certain that the supply will equal the demand, especially while oils like lavender continue scarce.

The United States has been fortunate in being able to import fairly large quantities of Paraguay petitgrain and of Mexican lignaloe wood oil. Prices on both of these have fluctuated in the past two or three years but not to any serious extent. The price ceiling of most dealers on petitgrain oil has not been very high and this has kept the article moving in a satisfactory way at prices which are not at all prohibitive. At this time we see no reason why this oil should not continue to come in in sufficient quantities to meet the very steady demand.

**I**WISH that I could tell you something very definite about Grasse but whatever news is authentic about the French Riviera leaks out only in a spasmodic way. It is known that after the fall of France the Nazis continued to encourage production of articles like jasmin and rose in and near Grasse and took the products to Germany in considerable quantities. One of the Leipzig manufacturers who has been active in essential oils for many decades, was reported to have had supervision over the production of Grasse products. Articles like rose and jasmin are intrinsically so valuable that they may

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# U.S.I. CHEMICAL NEWS

June ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1944

## Wide Potentialities Pictured for U.S.I.'s Ethyl Chloroformate

### Product's Reactivity Facilitates Numerous New Organic Syntheses

Two factors are currently combining to rouse new interest in ethyl chloroformate (ethyl chlorocarbonate), a product which U.S.I. has been manufacturing on a commercial scale for many years. First of these is the broad range of synthetic possibilities opened up by recent investigation of the reactions of this unusual compound. Second is the lowered cost, resulting from improvements in equipment design and process control.

#### Major Uses

Among the older and better known uses of ethyl chloroformate are the production of flotation agents for ore refining and the synthesis of ethyl carbonate by a special process developed by U.S.I. Newer uses, demonstrating the extreme reactivity and versatility of ethyl chloroformate, include the following:

1. With ammonia it gives urethan; with hydroxylamine it gives N-hydroxy-urethan; with hydrazine hydrate it gives ethyl bicarbamate; with urethan or sodium urethan it gives ethyl imidodicarboxylate; with ethyl imidodicarboxylate it gives ethyl N-carboxyimidodicarboxylate; with urea it gives ethyl allophanate and cyanuric acid; with guanidine it gives ethyl guanidine dicarboxylate; with sodium cyanamide or with cyanamide in concentrated caustic soda solution it gives ethyl cyanamidedicarboxylate.

2. It condenses with metallic sodium and ethyl iodide to give ethyl secondary-butyl ketone and other products.

3. It reacts with phenyl magnesium bromide to give ethyl benzoate and triphenylcarbinol; with ethyl magnesium bromide it gives triethylcarbinol; with alkyl magnesium bromides it also gives ethyl alkylcarboxylates.

(Continued on next page)

### Other Chloroformates

Production of chloroformic acid esters of methyl, propyl, butyl, and amyl alcohols has been carried out successfully on a pilot plant scale in U.S.I.'s laboratories. While these products are not now in commercial production, inquiries concerning them will be welcomed.

## Innovations in Chemical Usage Help Create New Paper Products

### Finishing and Coating Patents Reveal Many Novel Applications for Solvents, Plasticizers, and Resins

Parachutes of rain-resistant paper "deliver the goods" to isolated troops. Paper paint containers "pinch hit" for tin cans. Waterproof paper "wraps" protect everything from aircraft engines to blood plasma. In scores of dramatic

### Predicts Adequate Supply of Super PYRO Anti-Freeze

Faced with the prospect of keeping the "old bus" going through another war winter, motorists will welcome U.S.I.'s recent announcement that Super PYRO can be expected to be available this Fall in about the same quantity as last year.

Particularly important in these days when new radiators, and even repairs, are difficult to obtain, Super PYRO affords an extra margin of safety in its high heat resistance and unique rust prevention features. Despite warm spells and sustained engine heat, Super PYRO stays on the job, seldom requiring replacement; it's always ready for sudden cold snaps.

### Vitamin B<sub>1</sub> Repels Mosquitoes; Reduces Itching from Bites

Dramatic results have been obtained in the treatment of individuals severely affected by mosquito bites, according to reports in a recent issue of Minnesota Medicine. Tests showed that heavy initial doses of thiamin chloride, followed by smaller regular doses, not only reduce itching, but actually make the individual repellent to mosquitoes.

One case history was that of a man abnormally affected by mosquitoes. Before a fishing trip, he took three 40 mg. doses of thiamin. While other members of his party were bitten ferociously, he was bitten but a few times, and none of the bites were troublesome. Size of dosage in other cases varied widely, depending on the individual treated.

ways, new paper products take their places among the significant technological developments of the war.

In many present-day developments in paper finishing and coating, U.S.I. solvents, resins, and other chemicals are finding novel uses. Zein-alcohol solutions, for example, are used to waterproof



Paper parachute at work.

wrapping paper. Sealing processes utilize phthalates as plasticizers. In paper coatings, especially where oil and grease-proofing are required, U.S.I. alkyd resins are employed. And, of course, in a variety of processes, acetates, alcohols, and acetone are the key solvents.

### Postwar Possibilities

In much of the progress promised for tomorrow, moreover, U.S.I. products seem destined to take an even more prominent part. Here are a few patents culled from recent literature which show the trend:

\*A method to prevent discoloration of vinyl resin papers by heat entails the addition of the calcium chelate derivative of ethyl acetacetate.

\*For paper of high wet strength, a new product is added to the paper-making stock, and the mixture acidified with alum. The paper is then formed and heat-treated dry. The product involved is made by reacting glue and formaldehyde, and using ethyl alcohol to arrest the reaction just short of the gelling stage.

\*Fusible, flexible, water-impermeable coatings for bread-wrapping paper are prepared using a neutral resin, diamyl phthalate, paraffin wax, and the reaction product of manganese oxide and dammar gum.

\*Another moisture-proofing patent covers the treatment of regenerated cellulose with a mixture of ethyl cellulose, paraffin wax, ester gum, etc., using toluene and alcohol jointly as the solvent.

\*Still a third patent in this field includes the use of dibutyl phthalate as plasticizer for vinyl resin compositions.

(Continued on next page)



Preparing shells to be hurled against the Japs. Note the discarded paperboard containers in which individual shells are protected right up to the point of use.

June



# U.S.I. CHEMICAL NEWS

1944

## Stabilizes Thionitrites in Diesel Motor Fuels

The effectiveness of thionitrites in improving the ignition properties of diesel fuels is well established. The difficulty has always been in the instability of the thionitrites after addition to fuel, where the presence of higher oxides of nitrogen tend to accelerate their decomposition.

Recently granted patents describe a method of stabilizing these thionitrites by the addition of small quantities of ethyl acetoacetate or similar compounds.

## New Process Deodorizes Vitamin-Bearing Fats

Removal of objectionable tastes and odors from fat-soluble, vitamin-containing materials of the fish oil and fish liver group is the objective of a recently patented process.

The vitamin-bearing material or concentrate is first mixed with a natural antioxidant—containing substance such as vegetable oil. This mixture, dissolved in an alcohol, ester or ketone solvent, is cooled to a temperature at which layers form, separating the solvent concentrate from the insoluble residue.

Objectionable ingredients are then removed by heating the extracted concentrate, under reduced pressure.

## Ivy Poisoning Responds to Extract Treatment

Excellent results have been obtained in the treatment of ivy poisoning by injecting an extract made by steeping powdered ivy leaves in absolute alcohol, according to a recent article in the Military Surgeon. The extract is said to retain its effectiveness and brilliant green color indefinitely.

## "Tackifying" Synthetic Rubber

A new patent covers a method for imparting "tack" to certain types of synthetic rubber. The process involves the application to the surface of the rubber a solution of alkyl phthalyl glycolate in an organic solvent such as acetone, ethyl acetate, ethylene dichloride, or acetone and isopropyl chloride.

## Ethyl Chloroformate

(Continued from preceding page)

4. With allyl iodide in the presence of zinc, it gives among other things triallylcarbinol.

5. With metal compounds of alkylacetylenes it gives ethyl alkylacetylenecarboxylates.

6. With alcohols or alcoholates it gives neutral alkyl carbonates—either mixed ethyl carbonates, or di-substituted alkyl carbonates; with quinine there results quinine ethyl carbonate.

7. With phenol it gives ethyl phenyl carbonates and ethyl salicylate.

8. With sodium sulphide there results dicarboxy sulphide; with sodium ethanethiol there results ethyl thiocarbonate.

9. With ethyl sodium malonate it gives ethyl methanetricarboxylate; with ethyl sodium methanetricarboxylate it gives ethyl methanetetracarboxylate. With ethyl sodium acetooacetate there results much O- and a little C-ethyl carbethoxycetoacetate; with ethyl sodium cyanoacetate it gives ethyl cyanomalonate; with sodium benzoate it gives ethyl benzoate and benzoic anhydride; with sodium ethylene glycol it gives diethyl ethylene dicarbonate, from which ethylene carbonate can be obtained; with potassium cyanate there results carbethoxy isocyanate, and, depending on the conditions, the tricarbethoxy derivative of isocyanuric acid, and also the triethyl, the diethyl carbethoxy, and the ethyl dicarbethoxy derivatives of isocyanuric acid.

10. It reacts with benzene in the presence of aluminum chloride to give ethylbenzene.

11. With bromobenzene and sodium amalgam it reacts to give ethyl benzoate.

12. With acetone and potassium cyanide there results O-carbethoxy-alpha-hydroxyisobutyronitrile.

13. With phenol carboxylic acids and alkali there result carbethoxy derivatives.

## New Paper Products

(Continued from preceding page)

\*In amino-acid-diamine-dibasic acid interpolymers used for coating paper, an alcohol-water mixture serves as the solvent.

\*To improve the flexibility of abrasive paper, ethylene glycol is added to the bonding material.

\*In a paper-coating composition comprised of cashew-nutshell liquid and urea-formaldehyde resin, butyl alcohol is used as the solvent. This coating is claimed to be especially suitable for lining the caps of food and other containers, and for electrical insulation.

## TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

**Colored plastics** can be produced by dipping acrylic and acetate plastics in a newly-developed dye, it is reported. The new dye is offered in 12 colors, including red, yellow and blue. (No. 817)

U S I

**A paint and varnish remover**, which comes as a water soluble, non-inflammable, semi-liquid material, is recommended by the manufacturer for use on metal, wood, plaster, and fabric. Because of the slow-drying property claimed for it, the new product should be good for large areas, while its run-proof properties recommended it for use on vertical surfaces. (No. 818)

U S I

**A new sealing tape**, said to be waterproof and suitable for use on various containers, has been developed. This new paper tape, when applied with the special solvent which comes with it, is claimed to become absolutely water-tight 72 hours after application. (No. 819)

U S I

**A permanent ink**, for use on glass and ceramic surfaces, is announced. The new product is applied with a writing pen or fine brush and may be stored in ordinary cans or bottles. The ink, when dry, is reported to be unaffected by soapy water and most solvents, and to be non-corrosive, non-inflammable, and non-poisonous. (No. 820)

U S I

**A new synthetic rubber**, reported to remain flexible at extremely low temperatures, is now being manufactured. In securing this cold resistance, however, some sacrifice of tensile strength and oil resistance is entailed. (No. 821)

U S I

**A new lanolin replacement**, suitable for use as a base in pharmaceutical and cosmetic manufacture, is announced. The new base can usually be employed without changing formulas or processes, says its maker. (No. 822)

U S I

**A new disinfectant**, of interest for use in surgical and gynecological procedures has been developed. Among the features claimed for the product is the fact that it can be used by pharmacists in preparing low-cost aqueous dilutions. (No. 823)

U S I

**Repairs of rubber belts** can be effected with sections of belting made from the new GR-S synthetic rubber, according to a rubber manufacturer. The synthetic and natural rubbers are joined by a vulcanized splice, using standard vulcanizing materials. (No. 824)

U S I

**Protection against corrosion and fungi**, for electric equipment, is said to be afforded by a new liquid compound which may be applied by brush or spray. The product is reported to have good adhesion, high dielectric strength, and an effective temperature range from minus 50° F to plus 350° F. (No. 825)

U S I

**Cleaning and polishing** copper, chrome, nickel and other surfaces can be accomplished in one operation, say the makers of a new acid-free metal polish. (No. 826)

U S I

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Completely Denatured—all regular and anhydrous formulas  
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Super Pyro Anti-freeze  
Solox Proprietary Solvent

### ANSOLS

Ansol M  
Ansol PR

### ACETIC ESTERS

Amyl Acetate  
Butyl Acetate  
Ethyl Acetate

### OXALIC ESTERS

Dibutyl Oxalate  
Diethyl Oxalate

### PHTHALIC ESTERS

Diamyl Phthalate  
Dibutyl Phthalate  
Diethyl Phthalate

### OTHER ESTERS

Diethyl Carbonate  
Ethyl Chloroformate  
Ethyl Formate

### INTERMEDIATES

Acetoacetanilide  
Acetoacet-ortho-anisidine  
Acetoacet-ortho-chloranilide  
Acetoacet-para-chloranilide  
Ethyl Acetoacetate  
Ethyl Benzoylacetate  
Ethyl Sodium Oxalacetate

### ETHERS

Ethyl Ether  
Ethyl Ether Absolute—A.C.S.

### RESINS

Natural  
Synthetic

### ACETONE

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### FEED CONCENTRATES

Curbay B-G  
Curbay Special Liquid  
Vacatone 40

### OTHER PRODUCTS

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Ethylene  
Ethylene Glycol  
Indalone  
Nitrocellulose Solutions  
Urethan

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very easily play a relatively important part when Germany's acquisition of the products of neighboring countries is finally figured up. Both of the articles mentioned have keeping qualities, so that they do not deteriorate rapidly as the years go by, and they certainly represent a definite gold value. Lavender oil has been sorely missed by manufacturers of soaps and toilet preparations and it can only be hoped that, after hostilities cease, important quantities will be shipped from southern France to the United States. We must not be too optimistic about this because we have had so many proofs of the extreme slowness with which certain industries become reorganized after actual combat work is finished in the territories involved. The North African situation is a case in point.

A little jasmin has trickled through from Egypt in the past year and it would now appear as if some of the Italian product might be forthcoming during the approaching summer; at any rate it is known that there is a limited stock available in Sicily. The very high prices paid for jasmin in the middle twenties resulted in greatly increased acreage at that time. I am told that the jasmin cycle of satisfactory production approximates 15 years. If this be true, it is probable that there may continue to be a shortage of this much needed article for several years.

Oils of anise and cassia from China have been extremely scarce. Stocks are practically non-existent in the United States. From Chung King we hear of amazingly high prices for both oils, a part of the terrible wave of inflation sweeping that unfortunate land. Musk from China can come out by air, but here again the most fantastic prices are being quoted—beyond the reach of most of us.

Otto of rose has been very scarce owing to the difficulty of getting it out of Bulgaria. In the first two years of the war much of it was brought into the United States by the Standard Oil Company, whose Bulgarian interests sent it here instead of dollars, which were then unobtainable in Sofia. Later, occasional shipments from Turkey have found their way to the United States via Bas-

ra on the Persian Gulf and Capetown. Today what little otto is available in the hands of foreigners is quoted at or above the ceiling prices of most American importers. This situation may be adjusted in time.

The problem of financing imports, particularly from remote spots like Reunion, has been a serious one, and the scarcity of ships with the attendant need for trans-shipments have made the Colonial bankers most exacting and arbitrary in their demands for constantly changing types of letters of credit. One New York importer purchased \$6,000 worth of clove leaf oil in Madagascar seventeen months ago and has spent over \$100 in cabling the original letter of credit with several subsequent amendments, in an effort to satisfy the discounting bank. Incidentally, the oil has not yet reached this country!

#### TALL OIL IN SOAP (From Page 30)

making operation, or in a separate tank if one is available. This bleached soap is then used as a diluent or an emulsifier for the rest of the ingredients in the final batch. The odor of most of the tall oil soaps can be covered by perfuming with stable aromatic chemicals, which have a penetrating odor, such as acetophenone, iso bornyl acetate, eugenol, benzophenone, coumarin, yara yara, musk xylol, methyl salicylate, safrol and thymol.

**I**N THE manufacture of hard soaps, tall oils may be added to the tal-low, etc. The proportion should be kept under 30%, otherwise the soap will be soft. In textile soaps (for cotton) a mixture of 50% tall oil soda soap and 50% red oil soda soap does an excellent cleaning job. Good results should be obtained also in using tall oil soaps for scouring wool, where the high affinity to oil and to degras should show its effect.

Tall oil is also finding new uses in the manufacture of soluble oils and degreasing compounds. Both products are made by selecting an emulsifying agent and ingredients which reduce the interfacial tension oil to water. Tall oil soap with its

high oil affinity saves part of the coupling agents, which are solvents soluble in oil as well as in water, like ethanolamines, carbitols, cellosolves, glycols and other alcohols; and the emulsion of such soluble oil shows greater stability, indicating a better coupling by the use of tall oil. The bad effect of very hard water upon tall oil soap oil emulsions is upset by decreasing the free fatty acid content and increasing the amount of soap and coupling agents accordingly. As in other soap products, tall oils are here also best mixed with other fatty acids in above mentioned proportions. A low priced cutting oil, made from tall oil fatty acid only, and used best in soft water, has the following formula.

	Per cent
Tall oil .....	12
Low viscosity mineral oil..	82.6
Diethylene glycol .....	2.0
KOH—45% .....	3.4

By substituting 4% of the tall oil with oleic acid, a soluble oil, which can be used in hard water is obtained. A soluble oil, used as a mechanic's hand soap and as a dispenser type cleaner can be made from tall oils and has following composition:

	Per cent
Tall oil .....	12
Mineral oil (with very low viscosity) .....	77.3
Pine oil .....	5.0
Diethylene glycol .....	2.0
KOH—45% .....	3.7

Tree sprays used on dormant trees with infections such as San Jose scale can also be made from tall oil according to reports from a tall oil producer. Beside its use in soaps, tall oil has also found many uses in other fields, as in paints, varnishes, resins, driers, textile compounds, printing inks, etc.

#### Measurement of Detergency

A simple inexpensive photometer has been designed for the quantitative determination of films left by hard water on transparent glass plates during certain detergent processes such as commercial dishwashing. Constructional details and the electrical measuring circuit are discussed and information on the sensitivity of the instrument is presented. John L. Wilson and Elwyn E. Mendenhall. *Ind. Eng. Chem., Anal. Ed.* 16, 251-4 (1944).



## "SOAP — A TOOL OF PEACE — A WEAPON OF WAR"

Glycerine, a by-product of soap manufacture is a component of dynamite, smokeless powder and cordite.

## HOUCHIN PLODDERS, CUTTING TABLES AUTOMATIC CUTTERS, PRESSES . . .

. . . and other soap making equipment are therefore essential to the war effort as they are to peace-time efficiency.

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New Jersey

strict greatly the time of the break operation or to eliminate it altogether. Canadian Research Institute of Launderers and Cleaners Bull. No. 11, April, 1944.

#### Rot-resistance Tests

Mildew resistance should be distinguished from rot resistance, although the term mildew is often erroneously used to include all types of fungus and bacterial growths, tendering and rotting microorganisms, and even deterioration that may be caused by chemical and physical agencies. The futility of attempting evaluation by the use of mixed cultures is emphasized. Soil-burial tests are too complex to permit satisfactory control and therefore should be used only in conjunction with other tests. In devising practical test procedures, two different types of tests are suggested: evaluation and acceptance tests. Specific requirements for each are discussed. H. D. Barker, G. A. Greathouse and P. B. Marsh. *Am. Soc. Testing Materials Bull.* No. 126, 32-4 (1944).

#### Naphthoquinone Fungicide

2, 3-Dichloro-1,4-naphthoquinone has been found effective in the control of 22 important and widely divergent fungi. This organic fungicide appears to be non-injurious to foliage and may prove effective as a plant spray. As a mildew-proofing agent, the material protected cotton fabrics in laboratory and soil-burial tests. It appeared to have no harmful effect on the fabric as determined by bursting strength measurements and should prove valuable in replacing compounds containing such strategic chemicals as copper and mercury. W. P. Ter Horst and E. L. Felix. *Ind. Eng. Chem.* 35, 1255-9.

#### Tall Oil Refining

Refined products are recovered from tall oil by the selective esterification of the fatty ingredients with a mixed solvent marketed commercially as crude wood alcohol, in the presence of a mineral acid and an aldehyde. The resultant insoluble ester-resin-acid complex is then separated from the residual solvent. I. Miller. Canadian Patent No. 419,654.

#### Alkalinity Determination

A method for determining the free alkali content of soaps and soap products, including hand pastes, shaving creams, superfatted soaps, etc., depends on measurement of electrical potential.

When manufacturing soap by continuous saponification of fats, the old titration method of determining alkalinity proved cumbersome and expensive, since it necessitated continuous withdrawal of samples and repeated titrations. It has been found that the free acidity or free alkalinity of a fluid hydrated soap is a function of the potential between a test electrode of special character, and the soap. Although the result is not measurable in terms of pH, the method furnishes a convenient means of control. A reference electrode in a solution of known concentration is placed in contact with the test electrode in the soap, and the potential between the two electrodes measured.

The reference electrode may be a calomel electrode of known type. The test electrode may be an antimony electrode or a suitable glass electrode. In continuous operation a soft rubber blade is provided to wipe off the test electrode mechanically at frequent intervals and so keep it in proper contact with the soap.

After measurement by a potentiometer of the potential between the reference and test electrodes, the single potential of the material under test can be calculated. A potential characteristic of a particular free alkali content can be determined for a soap of given fatty acid composition and hydration at a specified temperature, and variations from this potential can be employed to control the proportion of alkali admitted to the saponification unit. Colgate-Palmolive-Peet Co. British Patent No. 11,018.

#### Sulfonated Peanut Oil

Refined, deodorized peanut oil is easily sulfonated. The sulfonation proceeds smoothly and washing can be facilitated by breaking the emulsion with a 15 per cent solution of sodium sulfate. Oils not too old and treated with an inhibitor show no odor when applied to textiles. The sulfonated oil

is a good emulsifier. John B. Gallent. *Am. Dyestuff Reporter* 33, 148-9, 156 (1944).

#### Waxes from Waste Materials

In the production of paper pulp the waste is considerable and is usually lost in the waste water. Holland broom and Algerian broom contain 25 and 48 per cent of wax melting at 64° C., in the fatty, resinous and waxy portions. In Spain and Italy considerable paper pulp is obtained from esparto grass. Benzine extraction of the waste from this yields up to 30 per cent of wax melting at 67.5° C., with an acid number of 22.7, saponification number of 79.3, iodine number of 26.5, and 22.3 per cent of unsaponifiable matter. Wax from hemp dust melts at 69° C. and has an acid number of 22.2, saponification number of 86.3, iodine number of 33.3, and 13 per cent of unsaponifiable matter. Of several organic solvents examined, the best for extraction of esparto wax was trichloroethylene. A solvent fractionation of the extracted wax with 80 per cent of alcohol yielded 11 per cent of a wax-fat mixture with an acid number of 48.3, saponification number of 94.5, 67.9 of which was pure wax and 20 per cent a bituminous wax substance. C. Ludecke. *Fette und Seifen* 48, 452-61.

#### Cleaning Rubber Goods

Among the general principles suggested for the cleaning of rubber articles is the suggestion that they be washed with soap and water or alcohol as soon as possible after contact with oils, greases or solvents. Rubber gloves should be washed and scrubbed with a brush, using soap and water, before sterilization for surgical use. Soap must be rinsed off thoroughly after washing. Rubber sheeting should be washed with soap and warm water, thoroughly rinsed and then cleaned with a 5 per cent solution of cresol. These are recommendations made in the *Journal of the American Medical Association* for cleaning and conserving medical and surgical rubber goods. They apply equally to household rubber articles. Bull. Assoc. Am. Soap & Glycerine Producers, May, 1944.

## Bombs, Baby Powder, Beef Broth, and Borax



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of Munitions—Drugs—Foods—Chemicals!**



*Need help in solving a wartime packaging problem? Packers of dried eggs did and S & S engineers combined three S & S Universal Fillers with a Neverstop Automatic Carton Feeding Machine to produce finished lend-lease packages at the rate of 60 per minute! ★ Chemical Warfare and Ordnance Departments flashed a request for rapid conversion of existing equipment to bomb loading. S & S made changes in S & S Fillers that solved that problem. ★ The Quartermasters and their suppliers needed equipment for tricky packaging jobs for foods in emergency field ration kits. The S & S Transwrap Machine forms, fills and seals these packages at speeds of from 50 to 100 per minute. ★ Packers in the fledgling dehydrated foods industry brought a variety of especially tough problems . . . and S & S helped many find, first, the right package, and then the machine for its rapid production. ★ Chemical, drug and food plants pondered conversion away from use of critical materials. S & S Tight-Wrappers and other machines met these packaging needs. ★ These success stories can be duplicated; S & S engineers can do the job for you! Powder, granular substance or paste . . . there's an S & S machine to fill it and to package it, speedily, economically, in packages that really protect. Ask—*

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**SCHUNDLER BENTONITE**, Fesco Detergent, Fesco-Jel and other Bentonite products are available for immediate shipment from conveniently located warehouses. Priority rating is not now necessary. Carload shipments are promptly made from a modern mill at Belle Fourche, South Dakota.

Bentonite is widely used as a detergent in soaps and soap powders, as a base for hand soaps, in polishes, as modifying agent in alkali cleaners and direct in laundrying operations.

### "THE COLLOIDAL CLAY OF INNUMERABLE USES"

Innumerable users in many industries employ Bentonite for a variety of purposes, either in dry form, as an aqueous dispersion in the colloidal phase (gel form) or with other constituents for the obtainment of one or more of the general objectives here partially listed: Effective detergency; emulsification; suspension; absorption or adsorption medium; non-oily lubrication; uniformity of dispersion; mineral adhesive; filling or coating of paper, rubber, etc.; thickening agent; sedimentation; clarification; water impedance; catalyst or catalyst carrier; plasticizing; zeolitic water softening; building of soaps or alkalies; carrier or adhesive for insecticides, fungicides or antiseptics.

### TECHNICAL SERVICE

Schundler Technical Service is available. We suggest you inform us of problems in which a Bentonite product may be the solution. We maintain a well equipped research laboratory and a competent technically trained staff.

Samples, information and quotations available upon request. Inquiries from Recognized Jobbers Invited.

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# PRODUCTS AND PROCESSES

## Transparent Soap

Transparent soap is usually a tallow-rosin soap of high soap content made with alcohol and containing some glycerine. The alcohol is evaporated during manufacture, but the soap remains permanently transparent. The bar has a glassy fracture. The classical conception of such a soap as an amorphous under-cooled liquid has been tested by means of X-rays. A soap such as Pears Soap is shown to consist of a mass of fine ultramicroscopic crystallites, scattering light and arranged completely at random. Keeping for 20 years at room temperature does not appreciably affect this structure. J. W. McBain and Sydney Ross. *Oil & Soap* 21, 97-8 (1944).

## Powdered Washing Agent

The powdered, water-free or nearly water-free residue of sulfite liquor containing no calcium or iron, is intimately mixed with dry soap. A. Noll, to Zellstofffabrik Waldhof. German Patent No. 714,681.

## Nonsoap Detergents

The manufacture of bars or cakes from nonsoap detergents is described. The detergents consist of derivatives of the sulfocarboxylic acid of an alcoholic amine. Lever Brothers & Unilever Ltd. British Patent No. 550,757.

## Soap Additives

Additives for soaps recommended as non-injurious are alkali metaphosphates, hydrogenated phenols such as Hexalin, sodium caseinate, sodium protalbinate, purified sulfite waste liquors, etc. Hans J. Henk. *Deut. Parfum.-Ztg.* 27, 106-7.

## Rotproofing Agents

Cotton, linen, wood, wood pulp, paper, wool, silk, and like materials are protected against rot and fungus by first treating the material with a 15-20 per cent aqueous solution of sodium or potassium naph-

thenate and then with a 3-7 per cent solution of zinc sulfate to precipitate zinc naphthenate in the material. Cuprinol, Inc. British Patent No. 551,081.

## Acid Detergent

An acid-type detergent put out by Oakite Products of New York City cleans steel for organic finishes and serves as a conditioner and rust inhibitor. The new cleaner is said to provide improved adhesion for paint, lacquer and other finishes. Heretofore it has been restricted to war plants but it is now available for civilian use as well.

## Leather Cleaner

A special soap product for cleaning leather and removing stains that should be of definite value in the care and renovation of leather garments as well as leather upholstery, is made of the following:

Powdered castile soap .....	parts
Water .....	6
Boil together until the soap is dis-	
solved, and then add:	

Ammonia .....	parts
Glycerine .....	6
Ethylene dichloride .....	14
Bull. Assoc. Am. Soap & Glycerine	
Producers, May, 1944.	

## Sulfuric Acid Esters

A mixture of naphthenic acids, resinic acids or their triglycerides, and polyhydric alcohols, is sulfonated with concentrated or anhydrous sulfuric acid. The ratio of the components in the mixture is such that the esters still contain free hydroxy radicals in the alcohol groups. I. G. Farbenind. A.-G. German Patent No. 713,853.

## Pencil for Laundry Marking

A method of marking laundry consists in dispersing a colorless fluorescent dyestuff throughout a rigid friable pencil, then using the pencil to mark a textile fabric. The pencil material and dyestuff are left on the fabric. The subsequent laundering or

cleaning, most of the pencil body is removed but the fluorescent dyestuff remains fixed as a dye on the fabric. The mark is activated to visibility by the application of ultraviolet rays. F. M. Sell, to The National Marking Machine Co. Canadian Patent No. 419,981.

## Oil Shampoo

A liquid cleansing agent suitable for use as a shampoo or for more general purposes, may include the following ingredients:

Sulfonated castor oil .....	430-530 cc.
Oleic acid .....	86-105 cc.
Sodium orthosilicate .....	9-11 oz.
Water .....	1 gal.

Take half the quantity of water and heat to about 50°C. Add the sulfonated castor oil with constant stirring. Add the oleic acid with stirring. Stir for a further half hour, and add the sodium orthosilicate and the rest of the water. The temperature may be raised to 60-70°C. Let cool. Wm. Franklin. British Patent No. 559,137.

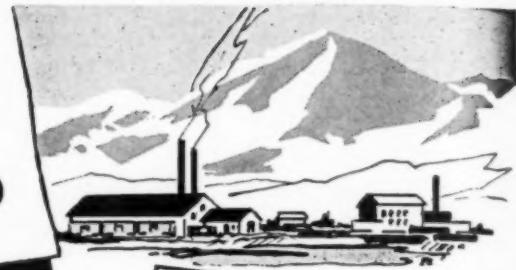
## Liquid Floor Wax

A clear, noncloudy, nonmilky liquid wax polish has a solid content of 10-15 per cent. It contains a wax such as carnauba which is predominantly of a particle size less than 0.1 micron, dispersed in an aqueous vehicle, thus being an oil-in-water type. Ingredients which are suitable are as follows, 1 part of wax, 0.25 of a higher fatty acid such as oleic acid, 0.25 of rosin, 0.27 of ammonium hydroxide, and 0.088-0.1 part of casein. Such a material forms a noncreeping coating on floors, which hardens on evaporation of the water and ammonia to form a clear transparent protective dried film substantially free of water-soluble ingredients and so free from spotting by water. John M. Olson, to Minnesota Mining & Manufacturing Co. U. S. Patent No. 2,331,925.

## New Phenolic Mercurials

A number of new compounds belonging to the class of phenolic mercurials have been prepared. These include polyacetoxy mercurials, monoacetoxymercurials and chloromercurials. Joseph B. Niederl and A. J. Shukis. *J. Am. Chem. Soc.* 66, 844 (1944).

# A PUMICE TO MEET EVERY NEED



Not until Valencia — the standard of American Pumice — was discovered at Grants, New Mexico, was it thought that a domestic pumice could match the quality of imported Italian Pumice. This inexhaustible deposit at Grants is true pumice stone and not a volcanic ash. It is physically and chemically equal in every respect to the now unobtainable Italian Pumice. • The Valencia plant's output of grades for every need is rigidly under control for particle size, purity, weight and color.

Check this table comparing Valencia with the highest grade of imported Italian Pumice. See for yourself that Valencia is truly the standard of American Pumice.

	American Pulverized Per Cent	Italian Select Per Cent
Silica	72.90	73.24
Alumina	11.28	10.61
Iron Oxide	.86	1.57
Titanium Oxide	.06	.10
Calcium Oxide	.80	1.10
Magnesium Oxide	.36	.40
Soda	3.64	3.03
Potash	4.38	5.58
Sulphuric Anhydride	.03	.05
Loss on ignition	5.20	4.04

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# PATENTS

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**Lancaster, Allwine &**  
**Rommel**  
**Registered Attorneys**  
PATENT AND TRADE MARK CAUSES  
402 Bowen Building,  
Washington, D. C.

Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine & Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

No. 2,345,776, Detergent patented April 4, 1944 by Paul W. Soderberg, Wyandotte, Mich., assignor by mesne assignments, to Wyandotte Chemicals Corp., Wyandotte, Mich. A detergent composition, such composition, in the dry state, being free from dust-emanating properties during handling and use, and comprising by weight, 50 per cent to 90 per cent technically anhydrous sodium orthosilicate which normally during handling and use forms and generates fine dust-like particles capable of being entrained in the air, approximately 30 per cent sodium hydroxide, approximately 10 per cent tetrasodium pyrophosphate and 5 per cent to 10 per cent of an oil selected from the group consisting of kerosene and pine oil.

No. 2,345,891-909, Synergists to Aerosol Insecticides, patented April 4, 1944 by William N. Sullivan, Washington, D. C. and Lyle D. Goodhue, Berwyn, Md., assignors to Claude R. Wickard, as Secretary of Agriculture of the United States of America, and to his successors in office. An insecticide in aerosol form comprising orthodichlorobenzene and lauric acid.

No. 2,346,256, Insecticidal Composition, patented April 11, 1944 by Mortimer T. Harvey, East Orange, N. J., assignor to The Harvel Corp. An insecticidal solution comprising an insecticidal rotenone product dissolved in a solution of cashew nut shell liquid and cashew kernel oil.

No. 2,347,012, Germicide, patented April 18, 1944 by Arthur L. Waugh, Chicago. A germicidal liquid containing substantially one part

formalin to two parts solvents including methanol and acetone, there being from one-half as much to twice as much acetone as methanol in said liquid, and containing approximately half as much to twice as much acetone as methanol in said liquid, and containing approximately 16 per cent formaldehyde, not more than 24 per cent water, and from .25 per cent to 2 per cent hexamethylenamine.

No. 2,347,260, Pest Control, patented April 25, 1944 by Hubert G. Guy and Avery H. Goodin, Newark, Del., assignors to E. I. du Pont de Nemours & Co., Wilmington. A composition of matter composed as a fly spray and containing N-isobutylundecylamide, pyrethrum and n-octyl thiocyanate, the amount of pyrethrum being sufficient to provide from about 10 to 100 milligrams of pyrethrum per 100 cc. of fly spray.

No. 2,347,265, Insecticide, patented April 25, 1944 by Julius Hyman, Chicago, assignor to Velsicol Corp., Chicago. An insecticide comprising refined inactive carrier oils containing, as an active ingredient, a methyl substituted naphthalene.

No. 2,347,336, Detergent Composition, patented April 25, 1944 by Herbert Seyferth, Buffalo, N. Y., assignor to Allied Chemical & Dye Corp., New York. A detergent composition comprising essentially an alkyl mono-nuclear aromatic sulfonate having at least 12 carbon atoms in the alkyl group, and a water-soluble alkyl ether of cellulose in a weight ratio of not more than 1 part of the cellulose ether to about 10 parts of the sulfonate.

No. 2,347,377, Organic Insecticide, patented April 25, 1944 by James William Swaine, Bayside, N. Y., assignor to General Chemical Co., New York. The method of combatting codling moth larvae infestations on pome fruit trees, which comprises spraying the trees during the growth of the fruit spraying the trees with a compound containing the xanthone structure.

No. 2,347,393, Pest Control, patented April 25, 1944 by Euclid W. Bousquet, Wilmington, and Hubert G. Guy, Penn Township, Allegheny County, Pa., assignors to E. I. du Pont de Nemours & Co., Wilmington. An insecticidal and insectifugal composition containing as an essential active ingredient a monophenoxy diphenyl ether and a carrier therefor.

No. 2,347,565, Process of Saponification, patented April 25, 1944 by Vaman R. Kokatnur, Beechhurst, N. Y. assignor to Autoxygen, Inc., New York. In the saponification of a fat containing a fat soluble vitamin, with preservation of the vitamin, the method which comprises forming a mixture containing the fat, a substantially anhydrous alkali metal hydroxide, and a liquid that is solvent for the fat and vitamin of the fat but a non-solvent for the said hydroxide and for anhydrous alkali metal soaps so that the alkali metal hydroxide originally used and the soaps as formed remain in undissolved condition, warming the mixture to a temperature not substantially above 100° C. until the fat is saponified, and separating the thus formed undissolved soap from the remaining solution, the separating of the undissolved soap from the remaining solution, being effected mechanically without change of state of any component of the mixture of soap and solution.

No. 2,347,573, Benzalmalononitrile as a Pest-Control Agent, patented April 25, 1944 by William Moore, Stamford, Conn., assignor to American Cyanamid Co., New York. A method of combatting insects which comprises contacting them with a composition containing as an active ingredient benzalmalononitrile.

## Tall Oil Hydrogenation

An aqueous solution of unsaturated fatty-acid soaps is treated with hydrogen in the presence of a nickel hydrogenation catalyst at a pressure above 50 pounds per square inch and at a temperature of 40-200°. By this method crude tall-oil soaps may be hydrogenated to produce light-colored material valuable for the soap industry. Colgate - Palmolive - Peet Co. British Patent No. 550,356.

## Fatty Acid Process

Fatty acids are obtained by oxidation of high molecular weight aliphatic or cycloaliphatic compounds by a continuous process. The oxidized products are separated from unaltered material, which is returned for further treatment. The oxidation is continued until the product has an acid number of 10 at the most, but preferably 0.5-5. H. Pardon, to Noble & Thorl G.m.b.H. German Patent No. 714,489.



## BASIC PERFUME MATERIALS

### ESSENTIAL OILS

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#### New Drums for Potash Paste Soap

The following letter has been received from C. W. Lenth, Chief of the Soap and Glycerine Division, Fats and Oils Branch, War Food Administration, in response to an inquiry from *Soap and Sanitary Chemicals* as to how manufacturers of potash paste soaps may obtain supplies of new open head steel drums to replace worn out drums.

"Under Order L-197, as amended May 27, 1944, manufacturers of paste potash soap are limited to 95 per cent of the tonnage of new drums that were used in the corresponding quarter of 1943. Anyone who used new drums for industrial shipments during 1943 will receive Form WPB 3785 from the War Production Board within a few days on which he will report his use during that period for the classes of products he packed.

"The War Food Administration has made arrangements with the War Production Board for producers of *paste potash soap* to obtain a limited quantity of new steel open head drums (55 gal.) and 5-gallon steel pails for essential replacement of worn out stocks. Each new 55 gallon drum is expected to make a minimum of four trips.

"If anyone has insufficient quota of new drums for commodity class No. 99 (Schedule A, Order L-197), applications for permission to purchase and use new open head drums and pails for paste potash soap may be filed (on WPB Form 3770, in quadruplicate) with the War Production Board's Container Division before June 30, 1944, covering requirements for the second half of 1944 by quarters. Under Section 1 of Form WPB 3770, applicants must indicate 'Paste Potash Soap'; under 2, indicate class (99); under 3 (a), specify the calendar quarters covered; under 3 (c) show the quantity of paste soap in pounds that he will be able to pack each quarter in the used drums he now has available or which will be returned by customers during the quarter; under 3 (b), show the quantity of paste soap in pounds in each quarter for which he will require new drums; under 3 (d), show the number of new drums required to take care of the quantity of soap shown under 3 (b), listing 55-gallon and 5-gallon drums separately; under Section 3 (e), show estimated weight of the steel in the new drums required. Section 4 should be omitted. Under Section 5, give information specified. In addition to the above, each applicant must include the following in the space marked 6:

- (1) Total poundage of paste potash soap shipped by the applicant in all containers 30 gallons or more in capacity on 'industrial orders' as defined under Order L-197 during the six-month period beginning October 1, 1943 and ending March 31, 1944.
- (2) Total poundage of paste potash soap shipped on industrial orders by the applicant in all containers less than 30 gallon capacity, but not less than one gallon capacity, in the same period.
- (3) Number and capacity of any new open head drums now on hand and a statement of when acquired.
- (4) Estimated inventory of packed stock of paste potash soap as of July 1, 1944, itemized by drum sizes and with statement whether packed in new or used drums.

"Distribution of the limited number of drums available will be made on the basis of applications received on or before June 30, 1944, so that it is important that applications be filed at once by paste soap makers desiring to participate in the distribution.

"WPB officials said that no new closed head drums would be released for potash soap since this type drum can be obtained second hand for use in packaging liquid soap. However, since this product has been removed from the prohibited schedule any person has the right to use part of a quota he may have on other products coming within class 99 on Schedule A of L-197 for soap if he does not need it on the other products in the same commodity class."

# EQUIPMENT AND BULLETINS

**I**F YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York 1, mentioning the number of the item.

#### 118—Sinclair Oil Booklet

The various phases of the part Sinclair Oil Corp., New York, and its subsidiaries are playing in the war, as well as some of its peace time operations, are fully illustrated and described in a folder just issued by the company.

#### 119—Wax Technical Bulletin

Distributing & Trading Co., New York, has just made available a ready reference booklet on substitutes and replacements for short supply mineral and vegetable waxes: "Waxes for Today and Tomorrow." The booklet lists 36 different kinds of waxes together with their specifications, and

current prices. It may be used for reference purposes by production men who may have to modify formulas or experiment with new ones. Copies of the booklet are available free upon request at the following address: 444 Madison Ave., New York 22.

#### 120—Maryland Insecticide Report

A report on the examination of agricultural insecticides, fungicides and disinfectants sold in Maryland from Jan. 1, 1943 to Jan. 1, 1944 has just been published by the Maryland inspection and regulatory service, College Park, Md. The current report covers 359 samples which were examined. Of the 359 samples examined, the report states, only 42 were found deficient; many of these were minor discrepancies and might be attributed to war time operational difficulties. In view of these problems, the department will cooperate with the industry

in permitting alterations in formula and labeling whenever necessary, the report declares.

#### 121—Folder on "Transwrap"

Stokes & Smith Co., Philadelphia, have just gotten out a six-page folder on the "Transwrap" package and machines made by the company to "form, fill and seal" these new packages. Fully illustrated and described, the folder lists the available feeds, package and machine sizes made by Stokes & Smith for the job. In addition, several other types of packaging machinery are shown and their specifications given.

#### 122—New Blackmer Pump

A new 300 GPM pumping unit, powered by a 25 HP Diesel engine, has recently been announced by Blackmer Pump Co., Grand Rapids, Mich. The new pump is designed for handling oil sludge and is fitted with steam jacketed heads to lower the viscosity of the pumpage. The engine speed is 1,200 RPM, reducing through a double-reduction, oil immersed drive

## Vegetable Oleic Acids

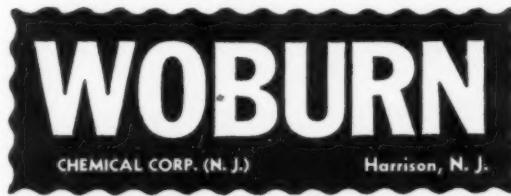
with unusually good emulsification and cleansing properties and good rinsability.

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Soya Bean Oil  
Fatty Acids  
Lard Oil  
Neatsfoot Oil

Oleo Stearine  
Stearic Acid  
White Olein  
Tallow

Grease  
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to 300 RPM on the pump shaft. The discharge pressure is 25 psi.

#### 123—Consulting Chemist List

The revised and enlarged eighth edition of the Classified Directory of the Association of Consulting Chemists and Chemical Engineers, Inc., has recently been issued and is available on request at: 50 E. 41st Street, New York 17.

#### 124—A.S.T.M. Booklet

The American Society for Testing Materials has just brought out a 44-page technical booklet that is a symposium on the identification of water-formed deposits, scales and corrosion products by physico-chemical methods. Copies are available at 65¢ each from A.S.T.M. headquarters, 260 S. Broad St., Philadelphia 2.

#### 125—Test Equipment Calibration

A new six-page booklet: "Calibration of Testing Equipment," which outlines in brief form the purpose and mechanism of verification of testing

equipment, has just been announced by Foster D. Snell, Inc., Brooklyn. It includes a brief description of the "Whittemore-Petrenko" proving rings used in calibrating compression equipment. Copies are available without charge from the firm: 305 Washington Street, Brooklyn 1.

#### 126—Diversey Sanitation Booklet

The Diversey Corp., 53 W. Jackson Blvd., Chicago, is promoting a sales campaign in the wholesale bakery field in behalf of their "Protex Metal-lum," detergent. The product is described as "the only cleaner powerful enough to remove encrusted grease without damage to the burned-out surface" of baking pans. A booklet on "Bakery Sanitation" is being offered which advises bakers on pan washing.

#### 127—Table of Hazardous Chemicals

The National Fire Protection Association, Boston, has announced a new 32-page edition of its "Table of Common Hazardous Chemicals," which provides data on 98 chemicals, with respect to their fire and life hazards.

proper storage methods, suitable extinguishing agents and other information. Included this year are discussions of a number of new chemicals not previously in general commercial use but now used widely in war industry.

#### Offer Chlorine Dioxide

Chlorine dioxide, a bleach said to be two and one-half times as powerful as chlorine, is now available for industrial purposes, including use in bleaching soap, by means of a process developed by Mathieson Alkali Works, and described at the May 16 meeting of the American Institute of Chemical Engineers, in Cleveland, by E. R. Woodward. Although chlorine dioxide has been known to chemistry for a long time, its use has been limited because it does not keep, and therefore cannot be manufactured in bulk for shipment. The new process, according to Mr. Woodward, overcomes this difficulty by providing a safe, practical method by which the user prepares the bleach from chlorine and sodium chlorite at the point of use and in the quantity required.



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#### AROMATICS

## TOILET GOODS SUPPLY OUTLOOK

(From Page 38)

and I will see what can be done to help you. Keep in mind, however, that only 25% is available for non-military use.

### Containers and Paper Board—

The most serious problem facing the toiletries and cosmetics industry today is the critical shortage of paper and pulp. You are already feeling the effects of this shortage and indications are that it will become more serious before any relief can be expected. Too much emphasis cannot be placed upon salvaging and re-use of shipping containers. It is my belief that this problem should be given the same serious attention that has been given to the raw material shortages. You may say that the raw materials problems were made easier by the availability of substitutes and that there is no available substitute for paper. This is partly true. However, there is one available substitute for new fibre shipping containers—and that is used containers. From present indications, the toiletries and cosmetics manufacturer who has developed, or soon develops a salvage and re-use program for shipping containers will not only be contributing to the war effort but will also be helping himself.

The following suggestions may not be new to you, but, in my opinion, should be given every consideration:

1. Use stickers, posters, labels, etc., to urge your customers or distributors to save shipping cartons. It is also advisable to point out the best methods to be employed in opening the containers.

2. A small sticker placed on your shipping container advising the emptier to save this container, advising how to flatten out, store, and pack into bundles, and return to shipper or sell to used container dealer, will pay dividends in more shipping containers.

3. Print slogans on the containers about re-use of shipping containers.

4. Use gummed tape, spot sealing, or steel strapping to seal your containers, to avoid damage in opening. This should add many trips to its life.

5. On local deliveries instruct your truckman to pick up an empty container for each full one delivered.

6. Salvage for re-use all shipping containers entering your plant.

7. Investigate all sources of supply; used shipping container dealers should not be overlooked.

Also, every consideration should be given to conservation of paper and paperboard in packaging. Examine your packages with the aim to eliminate all unnecessary, superfluous uses. Remember that the primary purpose of a container is to carry your product to the consumer in a useable condition. Any voluntary elimination of wasteful practices in packaging will make available for necessary packaging whatever paper is thus saved.

## PREVENTION OF DERMATITIS

(From Page 33)

are made in accordance with the principles here described.

In addition to these preventive measures for the protection of their own workers, the manufacturers of basic chemicals should study the toxic and skin irritant properties of the chemicals they manufacture and devise methods for safe handling. This information should be passed on to their customers in the form of pamphlets accompanying each purchase and in the form of labels giving such information placed on all containers of toxic or skin irritant chemicals.

The purchasers of basic chemicals for processing, mixing, or use in manufacturing, should demand that the makers acquaint them with the toxic properties of basic chemicals and give detailed instructions for safe handling. The users of toxic basic chemicals should provide their workers with the necessary safety devices needed for protection and see that the workers use them. Cleanliness of working environment, clean protective clothing, and harmless cleansers, are personal preventive precautions effective against all skin hazards.

The manufacturers of consumer goods should in turn have proper tests made of their products to safeguard the consumer public against poisoning and dermatitis.<sup>3</sup> Such tests

should be made on all products to which the skin is exposed, in which new chemicals are used, or in which old chemicals are used which had not been previously used in the manufacture of the product, or in which new combinations of old chemicals are used. The skin tests should be performed by accredited dermatologists, both as to primary irritant and sensitizing properties, in a manner described in other publications.<sup>4</sup> The author has advocated special tests to be performed before new spray insecticides are sold to the public.<sup>5</sup> The results of these tests should be made known to distributors and the precautions necessary to protect those using the insecticides should be plainly printed on the container, together with a warning that unless these precautions are used, dermatitis may result.

The public should be educated to demand information as to the toxic and skin irritating properties of the materials which they buy and to demand that this be printed on packages containing them together with methods for safe usage. Materials which require to be used by placing next to the skin, such as fabrics, ornaments, cosmetics, etc., should not contain primary irritants or known sensitizers.

The principles in the prevention of industrial dermatitis and dermatitis among the consumers from manufactured goods have been outlined. The application of these principles will go far to aid in our war effort by decreasing contact dermatitis and the large financial loss resulting from it.

## References

<sup>1</sup> Schwartz, Louis: Protective Ointments and Industrial Cleansers, *The Medical Clinics of North America*, Philadelphia, W. B. Saunders, (July) 1942.

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<sup>3</sup> Schwartz, Louis, et al.: An Outbreak of Dermatitis from New Resin Fabric Finishes, *J.A.M.A.* 115:906-911 (Sept. 14) 1940.

<sup>4</sup> Schwartz, Louis: Dermatitis from New Synthetic Resin Fabric Finishes, *Journal of Investigative Dermatology* 4:459-470 (Dec.) 1941.

<sup>5</sup> Schwartz, Louis, and Warren, Leon H.: Dermatitis Caused By a New Insecticide, *Public Health Reports* 54:1426-1435 (Aug. 4) 1939.

# SANITARY PRODUCTS

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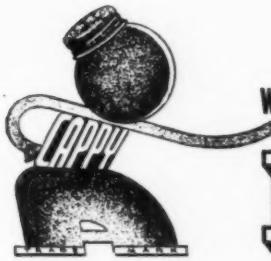
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# INSIDE NEWS

JUNE

PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y.

1944

## New Bonding Process Will Affect Many Industries

It looks like ordinary glue—but when two pieces of aluminum are bonded with it, 3000 lbs. pressure are required to tear them apart!

The name is "Cycleweld," and it's called "a new process for permanently bonding together, and to each other, metal, wood, plastics, ceramics, fibre board and rubber in any desired combination to form structures that are stronger, lighter and cheaper than those joined by conventional methods."

### In War Production Today

The exact composition of Cycleweld cement, a thermosetting plastic, is censored today, owing to its wide usefulness in aircraft manufacture. In wing flaps, wood-metal fittings, stabilizers, it is saving time, eliminating rivets and increasing strength while it reduces weight.

In fastening metal wing flaps, for instance, it has saved 4 man-hours riveting time on P-40 fighters, and cut cost one-third. Only 300 rivets are necessary to hold wing flap supports, instead of 1200. The Cycleweld is applied with a spray gun; the assembly is then joined together in a heated press.

On one experimental wood-constructed airplane, Cyclewelding saved 1700 lbs., eliminating bolts and nuts from the most important beam fittings. In another case, where

5500 rivets were formerly used to assemble an aircraft part, the manufacturers now use only 30 rivets and Cycleweld the rest of the joining, at one-tenth the cost.

Cycleweld's resistance to vibration is another important factor in automotive and aircraft applications.

### Wide Application Post-War

At the present time, Cycleweld has been adapted mainly to riveted or spot-welded construction designs. Even more far-reaching results are expected when it is used to join structures expressly designed for it. There are many possible ways to apply the necessary heat and pressure for the actual bonding.

Since Cycleweld can join together many kinds of building materials, its invention will permit greater lightness, strength and economy in the houses and furniture of the future. It is already being used to fasten corrugated steel within layers of plywood for prefabricated flooring.

Cycleweld's resistance to vibration will also permit new developments in automobile design, particularly where plastics are to be joined to metal, since it will be possible to fasten both of them to a cushioning strip of rubber.

can be improved, reports from Hungary indicate. Hyperol is a colorless and odorless combination of urea and hydrogen peroxide.

660

### Emulsion Stability

Because the number and type of emulsifiers have increased, there has developed the need for a test which will give a fairly rapid quantitative measure of the stability of emulsions stabilized with different agents. One such measure can be obtained from the resistance of the emulsion to breaking under mechanical stress. And centrifuging is proposed as a means of obtaining a measurable destructive force.

661

### Acylated Amines

Amines, either of the aromatic or aliphatic type, can be conveniently acylated with very good yields by reacting their hydrochlorides with an amide, it is reported in a foreign publication. In general, the amine hydrochloride is mixed with a slight excess of the amide and the mixture melted. After several minutes ammonium chloride separates and the reaction is complete.

662

### Anthracene Paste

Purification by heating the mass, allowing it to cool carefully, and then pressing to remove the content of entrained oil is described in a recent British patent. The process can be applied to pastes from which the oil could not be removed by direct pressing, and in the modified method, hydrocarbon impurities accompany the expressed oil in such portion as to produce pastes exceeding 40% in anthracene content.

663

### Synthesized Santonin

Santonin has been successfully synthesized in India, according to a recent dispatch from that country. An unusual feature of the synthesis was declared to be the formation of santonin in the optically active form. Synthetic materials are usually obtained in the racemic form.

664

### Melamine

Manufacture from cyanamide or dicyandiamide by an improved method is claimed in a recent British patent. In the process described, a solution of cyanamide or dicyandiamide is heated in an autoclave in a solvent comprising liquid ammonia, with or without the addition of anhydrous methanol or other diluents to reduce the autoclave pressure, while agitating the charge.

665

### Disinfectant Salts

A comparatively new salts development in the disinfectant field, represents a decided change from older and more familiar types of disinfectants. They are exceptionally stable and can be stored indefinitely; characterized by exceptionally high bactericidal activity, they are germicidally active through a wide pH range. Other advantages which indicate a probable expanded use in the post-war period in the manufacture of disinfectants are relatively low toxicity and absence of appreciable odor. This last characteristic in particular offers quite a contrast to older types of disinfectants, with their characteristic phenolic, pine or chlorine odor.

658

### Transmuted Wood

Soft wood into hard wood by a new chemical process has been announced by a leading American chemical company. This chemical magic wand, made of commercially available and inexpensive chemicals, provides a result that is no longer natural wood, but a new material that may be termed "transmuted" wood.

659

### Fish Preservative

By the use of "hyperol" as a bactericide, the preservation of fish during shipment

Varnish film formation without the use of volatile solvents was recently described by a large American company. The films are based on solutions of an unsaturated poly-

### Avoid Agitation

To insure a good flavor in Cheddar cheese, the milk to be used should be subjected to as little agitation as possible and all milk for cheese should be cooled. These are definite conclusions based upon the grading of experimental cheese made of first-quality milk under commercial conditions. Rancid and unclean flavors are developed rapidly by agitating milk. The vigorous agitation of uncooled milk, as in farm trucks on the way to the cheese station, activates the milk lipase, and it is the lipase activity which accounts for both the rancid flavor and the related but less definite defect classed as "unclean flavor".

655

### "C" From Beet Sugar

Galacturonic acid, derived from sugar beet pulp, has been found a suitable starting material for the production of vitamin C.

656

### "Hormoned" Tomatoes

By using the aerosol method (gas containing insecticide under great pressure in small cylinder), hormones sprayed on tomato blossoms obtained nearly a perfect set of fruit, grew faster and ripened faster, were larger and nearly seedless, both indoors and out.

657

# NATIONAL CAN



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merisable resin in a nonreactive fluid solvent. Under the influence of a catalyst at slightly elevated temperatures, the varnishes are said to harden into tough products. 666

## Petroleum Jelly

This has been found effective in combating the swelling and gangrene caused by prolonged exposure to salt water often suffered by torpedoing victims. Canadian medical research has found an impregnated stocking an easy method of application of the treatment. 667

## Quahog Fishing

The war promises to bring out another major New England ocean industry, fishing for black or ocean quahogs. Quahogs, a hard-shelled variety of clam, have been less popular than the familiar soft shells . . . and being inhabitants of deep water, they're harder to catch. However, scientists of the Fish and Wild Life Service are establishing a laboratory in New England to encourage quahog fishing.

Last year's production of ocean quahogs (*Venus mercenaria*) totalled 50,000 bushels, providing 435,000 pounds of meat for clam chowder. The Interior Department of the government presents these earnings figures: Average price for a bushel of quahogs \$1, average catch in one day for a boat from 40 to 50 feet long, 100 to 150 bushels . . . worth going after! Quahogs are nutritious, tasty and are said to be plentiful for commercial catches off the New England coast. 668

## Sulfathiazole in Glycerine

Further evidence that glycerine is a superior vehicle for incorporating sulfonamides is presented in a recent report from the Canadian Army Medical Corps. The mixture, prepared in a clean mortar with a clean pestle, results in a smooth cream said to have none of the disadvantages of other preparations. It is easily made, chemically stable and stands temperature extremes well. It has a wide and varied field of usefulness and is definitely anti-bacterial. 669

## Penicillin Dressing

A new type of penicillin dressing with a glycerine content has been reported for topical application in local treatment of wounds. Clinical application of the penicillium-inoculated dressings on a series of patients who had not been benefitted by other forms of therapy showed the efficacy of the procedure. 670

## Pellicles

Regenerated cellulosic gel bands or pellicles suitable for bottle caps, seals and the like are impregnated with admixed water, a softener, and isopropyl alcohol, serving to preclude attack by molds and bacteria. 671

## Technical Topics

**EMULSIFIER** — A light amber liquid, declared to form controllable milky emulsions in water, and to be miscible with alcohol, glycerine, glycol, hydrocarbons, solvents and oils, is being offered as an emulsifying agent for cosmetic, food and other commercial products. 672

**TUBERCULOSIS CURE** — A new chemotherapeutic agent has produced encouraging results in the treatment of tuberculosis. Though no conclusions have as yet been expressed as to the curative power in human cases of tuberculosis, outstandingly positive curative effects have been recorded on the disease in guinea pigs. Its relative lack of toxicity to humans and animals alike is also declared to be very promising. 673

**BRONCHODILATORS** — Indanamine compounds have shown promise in the treatment of bronchial asthma, a representative of a large American pharmaceutical manufacturer reported recently. The indanamines were found effective bronchodilators without causing any appreciable undesirable rise in blood pressure. 674

**SOIL FUMIGANTS** — Dichloropropylene and dichloropropane have been found to have desirable soil fumigating properties, and to be highly effective in the control of the common root-rot nematods. Hawaiian pineapple planters have already used the materials on a large scale with satisfactory results. 675

**CARBON BISULFIDE** — Manufacture by an improved method is claimed in a recent British patent. In the process described, molten sulphur is passed in small fixed doses at regular frequent intervals into a retort containing heated charcoal. As the reaction proceeds it is advised that the molten sulphur additions be gradually decreased in quantity. 676

**TRIETHANOLAMINE** — Turkey red oil, and alkaline soaps of fatty acids materially reduce, and in cases overcome loss of luminescence commonly encountered when pigments of the zinc-cadmium sulphide class are employed in paints or enamels for exterior exposure, it is declared in a recent British patent. Not more than five percent of the wetting agent should be added to the paint, the claims state. 677

**ELECTROPOLISHING** — The value of glycerine in electropolishing solution is again brought to the fore in a recent U. S. Patent. 678

**FANWEED** — This grows abundantly in the north central states and southwest Canada, can be processed for a seed oil which is a good substitute for rapeseed oil, 90% of which came from Japan, for paints and varnishes; and also edible shortening or salad oil. 679

**CRANBERRY** — Derivatives include ursolic acid, a white odorless powder used in compounding cold creams; cranberry meal, a filler for plastics; cranberry seed oil used in shampoos. 680

**ONION OIL** — Volatile oil of onion and garlic have been found by Russian scientists to contain a bacteria-killing substance. Onion paste has been used to heal wounds and guard against infection. 681

**SUMMER COMFORT?** — A chemical used in liquid form or cosmetic creams as an insect repellent. One application gives six hours' protection. 682

**ROT CONTROL** — Penicillin has been found of possible value in horticulture. Studies at a western university show that the bacteria responsible for the destructive rot of the giant cactus of the southwest could be controlled. 683

**INK FOR GLASS** — A new, permanent ink that adheres to glass and ceramics and is non-corrosive, non-inflammable, has been developed. Dry ink is not affected by any common solvents; may be kept in a can or bottle and is easily applied. 684

*Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.*

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# POST-WAR INSECTICIDES



**E**veryone is indulging in a certain amount of highly imaginative dreaming which is dignified by the name of post-war planning. Present and future developments and the certainty of expansion along new lines present an enticing and immensely stimulating prospect even though no one is inclined to minimize the problems or discount the headaches which are sure to come.

However, any attempt at this time to go further and picture this supposedly rosy future in the blue print stage, which is the first step in genuine planning, runs into some practical difficulties which are a bit difficult to brush aside.

For one thing, we still have a war to win, and some intense concentration on that during the next few months will do no harm whatever.

It is anyone's guess how long that will take, and equally a guess as to what shape it will leave the world in economically and politically, and what procedures will be adopted to put the pieces together again.

Then too, technical developments, many incomplete and others secret or semi-secret, and probably others still to come, will influence future plans to a degree which cannot be estimated until more details are available.

Under these circumstances, we can only fall back

on generalities, and center attention on a few trends which seem to be too well defined to miss.

★ The demand for insecticides, both domestically and for export, will be greater than ever before.

★ Standards of performance will be raised by official action unless industry progress and consumer insistence accomplish the desired result sufficiently to make official action unnecessary.

★ Complete safety and complete freedom from irritation and other disagreeable characteristics as well as ease of application will be demanded by consumers to a greater degree than ever before.

★ Better appliances for application will be demanded, and as developed and introduced will play a big part in broadening and stimulating demand.

Speaking for ourselves, Dodge & Olcott Company propose to play an important part. Technical advances, some completed and others approaching completion, will open important possibilities to insecticide manufacturers as soon as they can be made available for general use.

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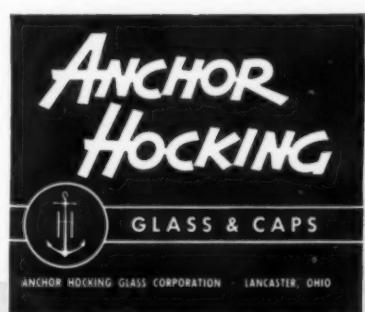
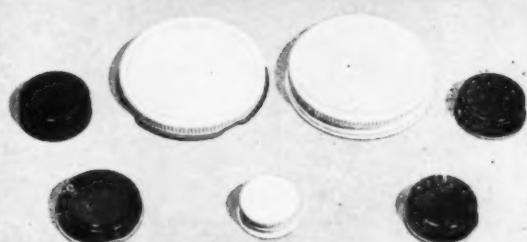
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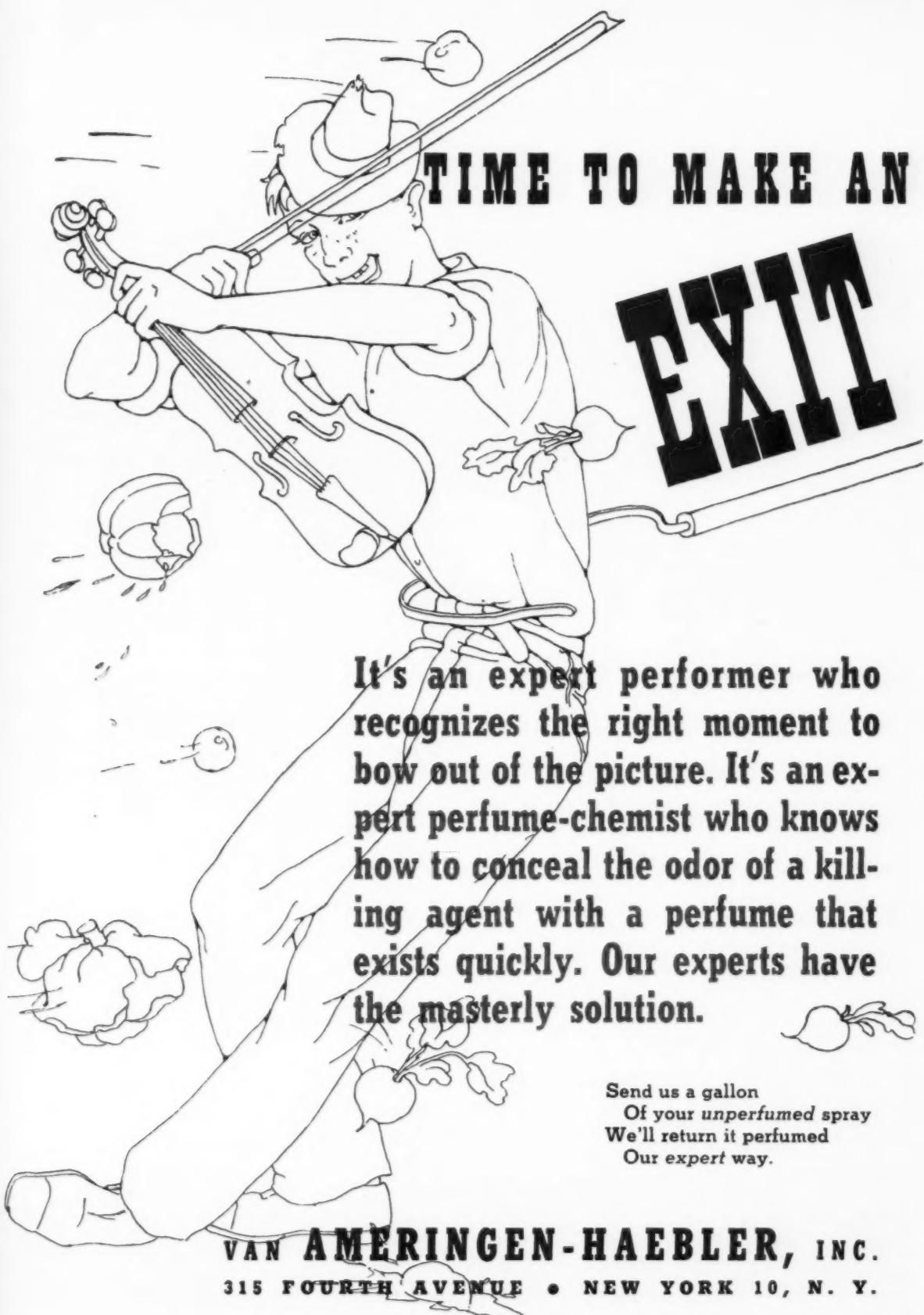


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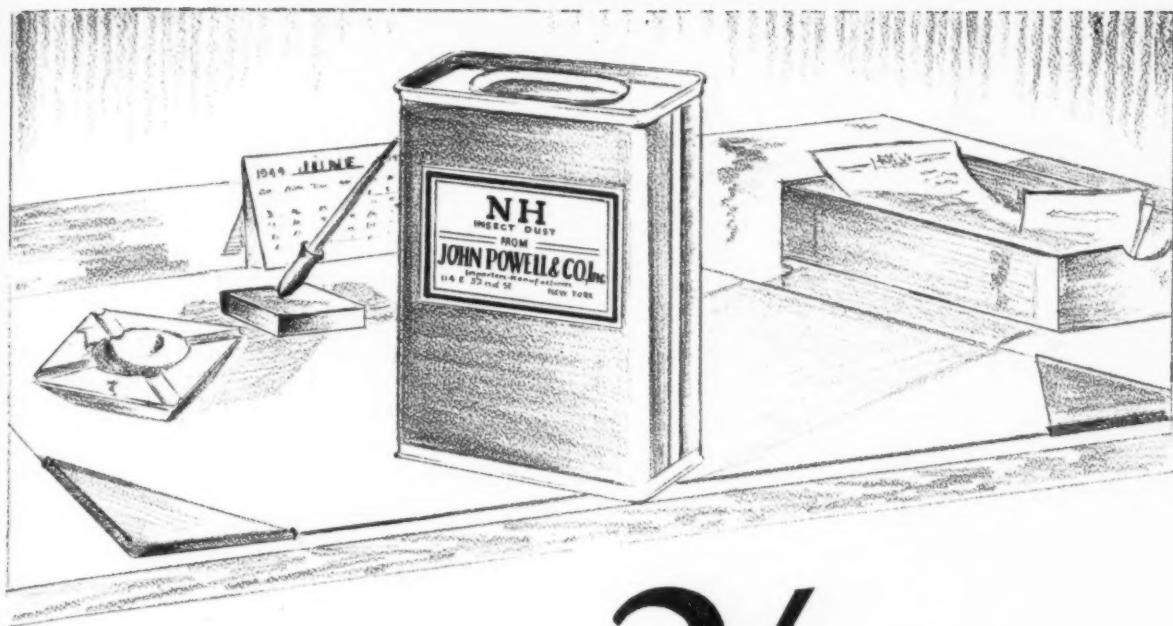
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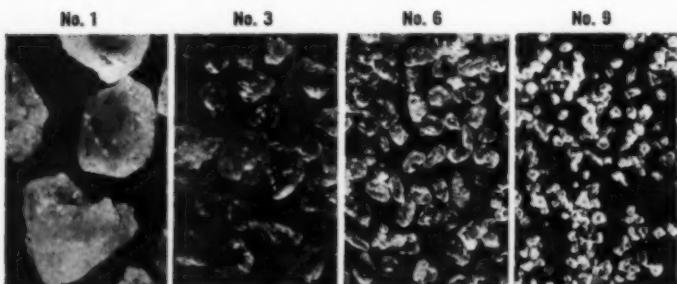
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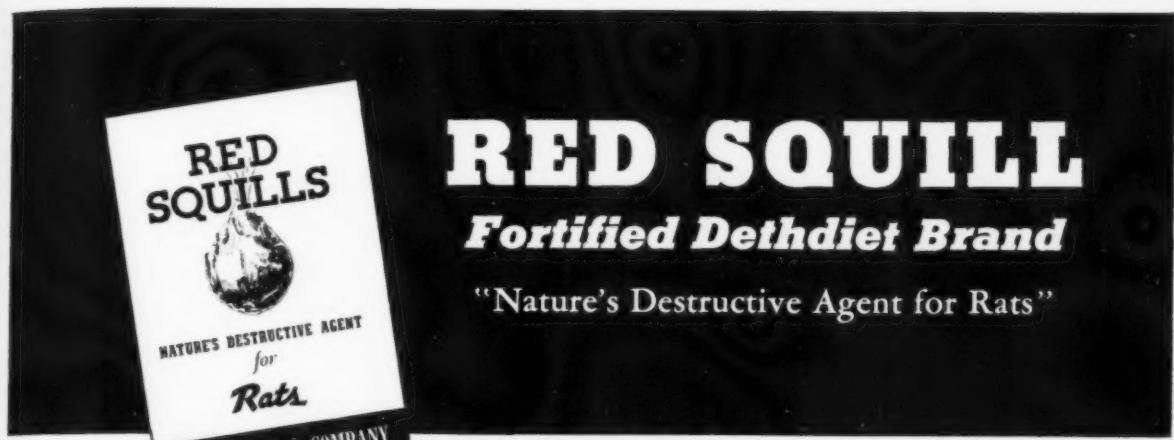
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IT has long been recognized that the problem of reducing the rat population of the country would be accomplished more efficiently by the use of Red Squill, potent enough to kill most of these disease-carrying, property-destroying rodents.

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you've wanted a  
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**A foot-bath that  
both your feet and  
nose can enjoy**

So help us! You don't know how good a foot-bath can be until you have used WINTER-PHENEE. A few ounces mixed with a few gallons of water and used in the foot-bath tray is the ideal method to use for the prevention and control of Athletes Foot Disease.

WINTER-PHENEE should be used in every locker room, gymnasium, club, hospital, institution or any place where it is necessary for people to contact the same floor with bare feet. The toxic agent in WINTER-PHENEE destroys bacteria that cause obnoxious odors and the pleasant odor of winter-green completely deodorizes the atmosphere, leaving it clean and fresh and keeps it that way.

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Ideal athlete's-foot solution  
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Excellent antiseptic  
Crystal-clear green concentrate  
Milky solutions in water*

# Winter-phene

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COAL  
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Although our three plants are all busily engaged in filling war orders which must take precedence over civilian requirements — we want our customer-friends to know that we are still in a position to satisfy their civilian needs and supply them with COLE Products in limited quantities. Despite these action-packed days, you can rest assured that COLE Products continue to represent the utmost in quality — because step by step, COLE Products are protected by continuous LABORATORY-CONTROL.

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next new car?



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SAVE TIN CANS—HELP CAN THE AIDS

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**NOTE TO MANUFACTURERS:** We will be glad to discuss future uses or improvements of your product or package, and to help you in post-war planning. Write to our Post-War Planning Department, 100 East 42nd Street, New York City 17, N.Y., or Continental Can Company of Canada, Limited, Montreal.

**CONTINENTAL CAN COMPANY**  
NEW AND BETTER THINGS IN CONTINENTAL CANS

Awarded to Plant 78,  
Chicago • Illinois



# SANITARY PRODUCTS

their manufacture, testing and use

By Leonard B. Schwarcz

## CONTENTS

**Sanitary Products Industry** — reviewing the type firms in the industry, the products they manufacture, and their annual value.  
**Discovery of Bacteria**—historical background on the germ theory of infection.  
**Principles of Disinfection** — the role of chemical preparations in disinfection; definition of disinfectant terms.  
**Coal Tar Disinfectants**—a review of their manufacture and use.  
**Cresol Compounds** — Liquor Cresolis Compositus, B.A.I. Compound, petroleum-type cresylics.  
**Pine Oil Disinfectants**—manufacture, properties and uses.  
**Hypochlorites**—manufacture, properties and uses of chlorine disinfectants.  
**Formaldehyde**—its applications in the disinfectant field.  
**Oil Soaps**—manufacture, sale and use of jelly soaps, green soaps, auto soaps, floor scrubbing soaps, etc. Special attention is given to manufacture of oil soaps from fatty acids.  
**Liquid Soaps**—The case for liquid soaps for washroom use. A review of raw materials, manufacturing methods, use, etc., with special attention to the problems of clarity, concentration, dispensing equipment, etc.  
**Soap Dispensers**—a review of the common types of liquid and powder soap dispensers, push-in, push-up, tilt, goose-neck, pullman, etc.  
**Floor Waxes**—A review of raw materials for floor wax manufacture and a study of manufacture and application of liquid waxes, paste waxes, water-emulsion waxes.  
**The Insect Problem**—A review of the general role which insecticides must fill in man's battle against the insect world.  
**Pyrethrum Insecticides**—The important place that pyrethrum has taken in the manufacture of non-poisonous insecticides. Manufacture, testing and use of pyrethrum insecticides are reviewed.

**Rotenone Materials** — Occurrence and toxicity of rotenone, and its use as an insecticidal raw material. Comparisons with pyrethrum on toxicity and deterioration.

**Synthetic Insecticides**—The most complete review yet published of the chemical nature, characteristics, and use in insecticides of a dozen synthetic materials.

**Activators**—The action of activators in stepping up insecticide toxicity. A study of activators which are in current use.

**Roach Control** — Roach powder formulation. The role of sodium fluoride and borax.

**Bedbug Liquids**—Control methods and special preparations.

**Livestock Sprays**—Manufacture and use of cattle sprays, with particular emphasis on repellency, application and choice of oil base.

**Sprayers**—A review of hand, continuous and electric types. Applicators for aerosols are also discussed.

**Moth Preparations** — Use of paradichlorbenzene, naphthalene, cedar preparations, etc., in moth control. Cautions on labeling.

**Deodorant and Urinal Blocks**—Para vs. naphthalene blocks. Pressed vs. molded blocks. Perfuming, wrapping, etc.

**Labeling and Packaging**—The most complete review ever published of the obligations of the sanitary products manufacturer under the Insecticide Act of 1910, The Caustic Poisons Act, The Federal Trade Act, the Food, Drug and Cosmetic Act and the various state laws. Typical decisions of the AMA and the FDA in reviewing offending labels are presented, along with sample labels of approved content.

**Appendix**—Complete text of Insecticide Act of 1910, Caustic Poisons Act, Peet-Grady Test for Insecticides, FDA Method for Disinfectant Testing, Mercury Reduction Method, Seil Method, NAIDM Specifications, list of approved antidotes.

SANITARY PRODUCTS has standard high-grade book binding, cloth and board covers, 6 x 9, 312 pages. Priced at \$5.00 per copy. Check must accompany order. Orders for books to be sent on approval cannot be accepted, but the usual return privilege will be accorded where copies are returned unmarred within 10 days. Owing to present conditions, the first edition must be limited. Accordingly an early order accompanied by check is suggested.

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## An Opportunity for Economical Improvement in Product Odor

Here is an opportunity to make an improvement now in the sales-and-use-appeal of your furniture oils, liquid floor waxes, window cleaners, insecticides and other specialty products.

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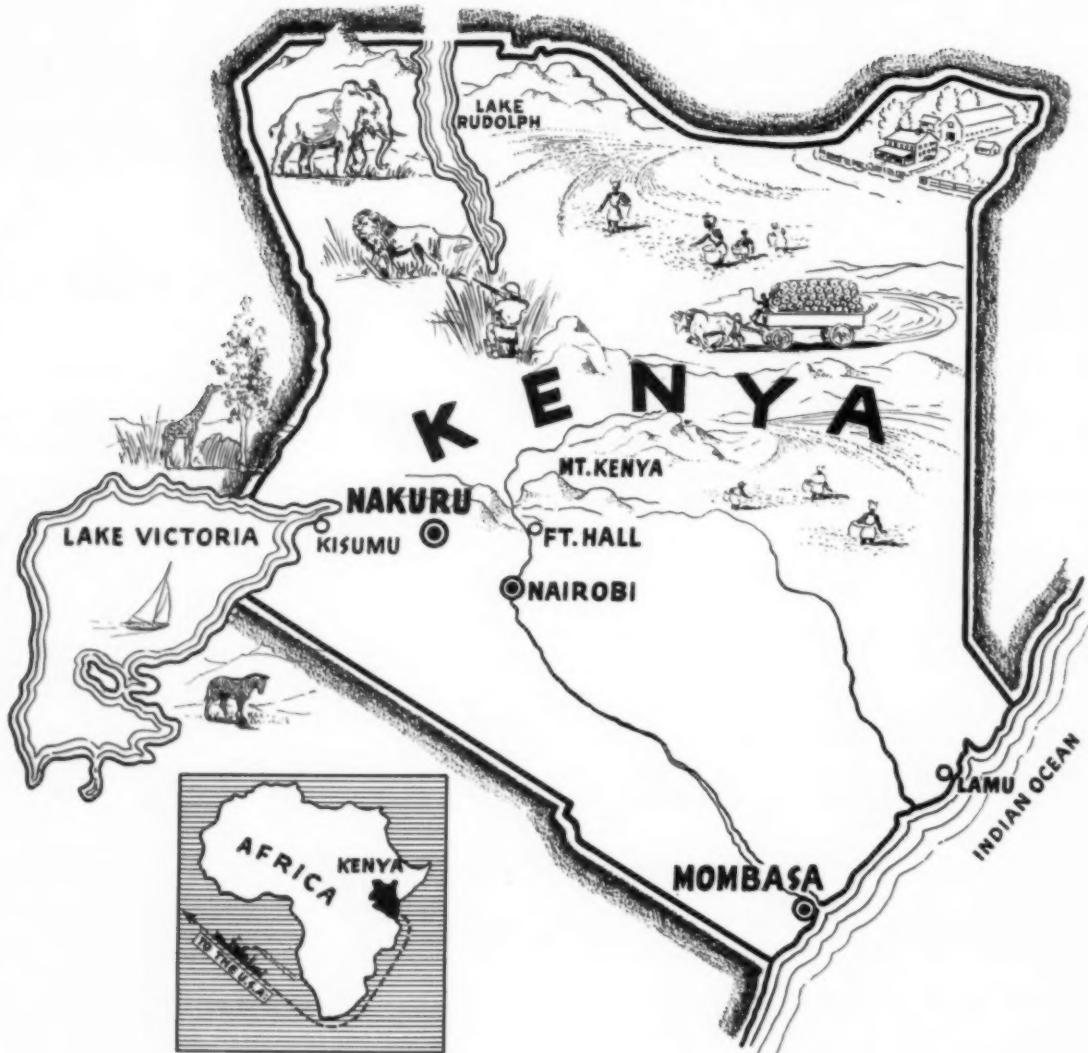
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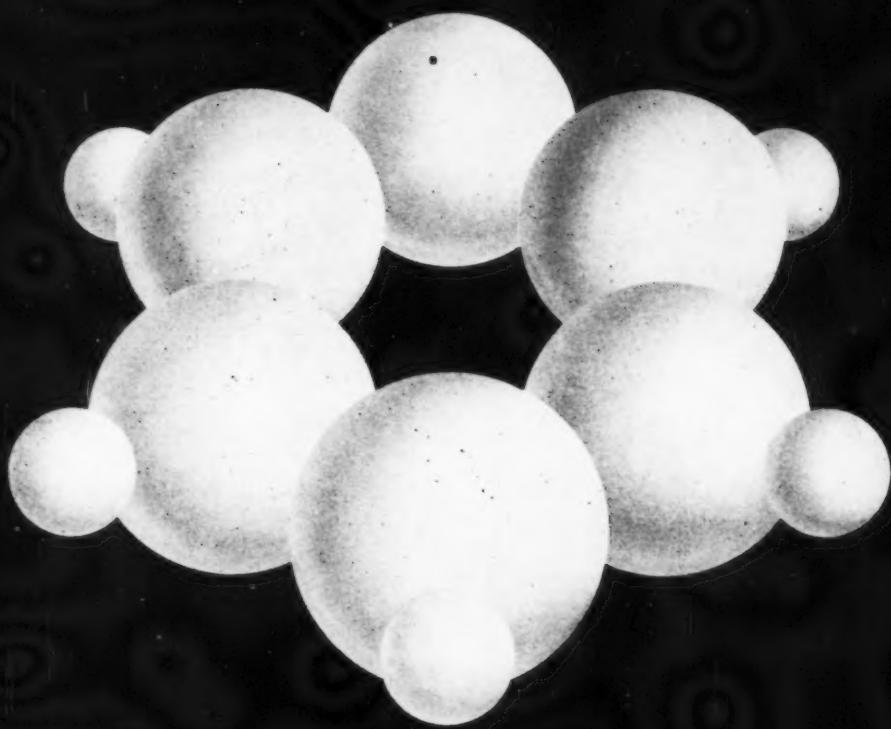


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*The Great Natural, **SAFE** Vegetable Insecticide*



## This magic ring fooled the Axis

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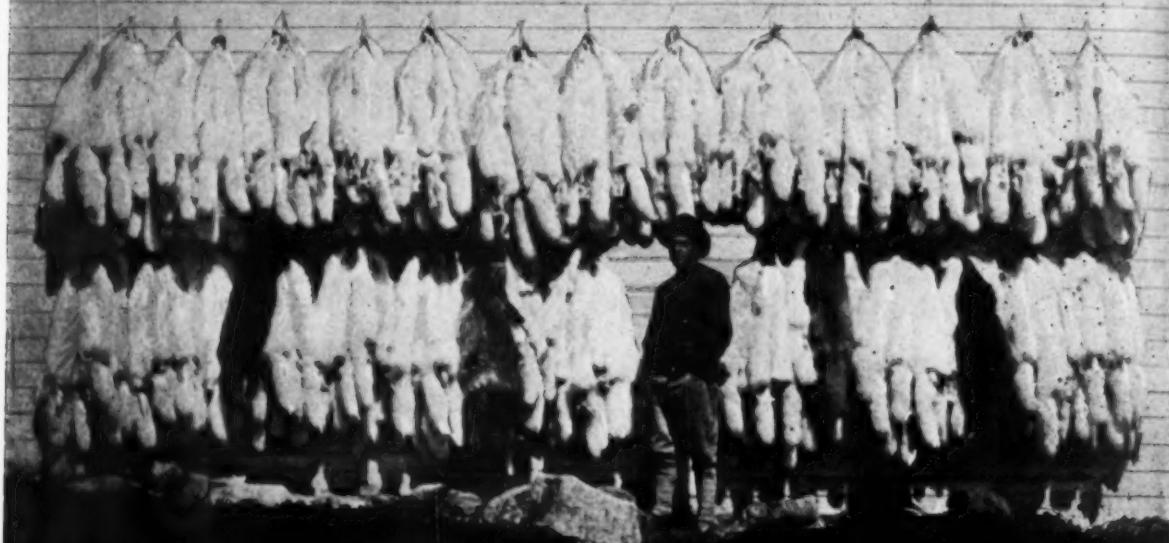
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on their tails  
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*Inquiries solicited*

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Isopropyl has so successfully solved the alcohol problem for many manufacturers of soaps and sanitary chemicals that they are standardizing on isopropyl for all their alcohol needs.

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## NINE ADVANTAGES OF **BRAID-O-PAD**

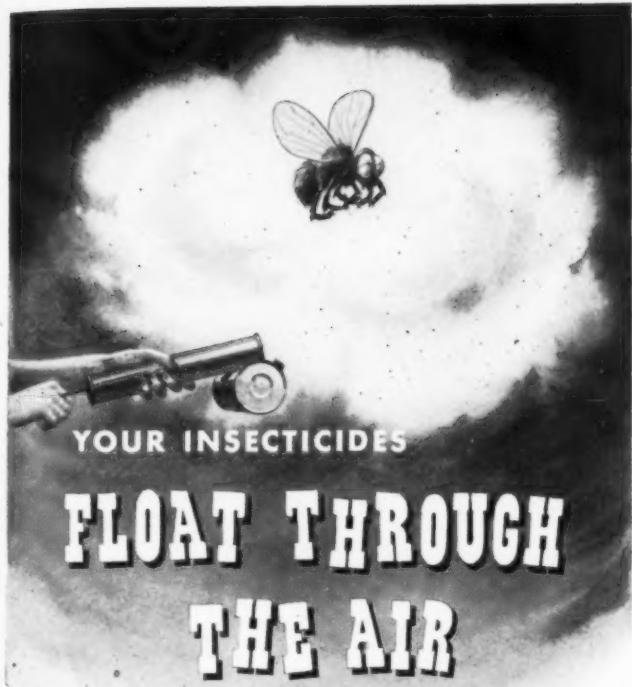
- Braided steel wool strands, being interlocked, do not wear out easily and last longer.
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**PENN-DRAKE  
INSECTI-SOL**

**IS USED AS A BASE!**

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Choose INSECTI-SOL for YOUR insecticide to provide the longer killing power and for a perfect base that is crystal clear, odor-free—and WILL NOT STAIN CLOTHING, DRAPES, RUGS, etc., because it evaporates *entirely* when its job is done!

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**DISINFECTANTS**

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*Sanitary Supply Specialists  
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Jun

# SANITARY PRODUCTS

A SECTION OF SOAP

*Official Publication*  
National Association of Insecticide & Disinfectant Manufacturers

**A**T no time during the past quarter-century have new developments in materials and methods for the control of insects, germ life and fungi come as fast or as furiously as during the past two years. A half-dozen or more basically new and different types of products have been announced since 1942, some already commercially available, some going exclusively to the armed forces, and still others not yet ready on a commercial production basis.

To a considerable extent, the effect of war demand has speeded up the completion of development and is responsible for the current availability of the new products. But in most instances, the war has merely brought to a quicker head the results of much research which has been carried on quietly for years both by private enterprise and the U. S. Department of Agriculture. And when we consider that for every research project which brings forth something of practical value, there are probably one hundred projects which produce negative results, the magnitude of the work standing behind the more important recent developments may be understood.

That the path of commercial manufacture and sale of insecticides and disinfectants will be changed by the new things in the post-war markets seems quite apparent. That they may not all live up to the early and enthusiastic claims made for them when they are subjected to the acid test of peace-time competition, is also a possibility. Cost and price do not have the significance today which they will have after the war. At the same time, Americans, termed the most germ and insect conscious people in the world, will

likely be larger consumers per capita of these materials in the post-war era than ever. And an expanding market may do much to absorb the new things into consumption without necessarily too much disturbance to older products which have stood the test of time. But, be that as it may, a much wider market there will have to be when present production for war is turned into post-war civilian channels—or competition will take a heavy toll of those which cannot hold the pace.



**T**HE recent success in the household market of several widely-advertised small-package deodorants has created much comment—and we believe no small degree of envy—among old-line manufacturers and marketers of disinfectants and deodorant products. There are those who claim that they tried out similar ideas twenty years or more ago without success and wonder how and why these newer products have been "put over."

For those who may harbor ideas of entering this market, we might point out that there may be dangers involved. If we remember correctly, the Federal Trade Commission, not to mention the U. S. Department of Agriculture, has in the past not taken too kindly to the use of such terms as "kills odors," "odor destroyer," "eliminates odors," "neutralizes odors." Time may reveal evidence of this attitude on the part of the government bureaus which are reputed to be very much "from Missouri" when it comes to deodorants.

# INSECTICIDE and DISINFECTANT M

Program features include debate on future of aerosol insecticides, report on DDT progress, developments

**A**S the 30th annual mid-year meeting of the National Association of Insecticide & Disinfectant Manufacturers gets under way at the Edgewater Beach Hotel, Chicago, problems of the post-war era in the industry hold the center of the stage along with those of the current war supply situation. The two-day meeting, extending through June 12 and 13, has before it for discussion the newer synthetic disinfectants, the character and commercial possibilities of aerosol insecticides, three speakers on DDT, dairy sanitation, prevention of insect-borne diseases, insecticide sprayer problems, dishwashing sanitation, post-war floor finishes and safety in floor finishes, roach testing methods, and allied subjects.

In addressing the opening of the meeting on June 12, Henry Nelson, president of the Association, and president of the Chemical Supply Co., Cleveland, stated:

**M**ANY problems confront us daily, some of them requiring immediate action, and I would be most ungrateful if I failed to express my sincere appreciation of the manner in which the executive committee has dealt promptly with the many matters coming to its attention. Without the splendid, voluntary cooperation on the part of this body of men, much that has been accomplished would of necessity have been left undone.

"The secretary's report which will follow my address is a resume of our activities since we last met. There is no need for me to dwell upon them here. Suffice it to say that your association is in a very healthy condition from the standpoint of finances, membership, and industry representation. Several new members have been added in the past six months for the work that your association is doing in behalf



HENRY NELSON, President



N. J. GOTTHARD, 1st Vice-Pres.

of the industry is becoming more and more widely recognized.

"The raw material situation leaves much to be desired. Pyrethrum, paradichlorobenzene, tar acid oils, cresylic acids and numerous other products are still on allocation. Pine oil in particular remains tight. The recent decision of W.P.B. not to allocate any pine oil to disinfectant manufacturers during the month of May caused considerable hardship, especially so since the demand for pine oil disinfectant is larger than for many years past. However some improvement is in sight as soon as stocks have been replenished at the producing points.

"Ever since the start of World War II, our industry has been engaged in work vital to the protection of the health of our armed forces. Our scientists are constantly working toward newer and better products. Startling developments have taken place of which you will learn more this afternoon and tomorrow. While our first and most important duty is helping to win the war, nevertheless we have not been unmindful of our

obligations toward the civilian population, for the home front, too, has to be protected against disease and insect infestations. Maintenance of sanitary conditions in war plants, food establishments, hospitals and homes has proven to be of ever growing importance, particularly as an aid to cutting down absenteeism. Therefore this phase of our business has a direct bearing on the morale of the worker on whose efforts depends the steady flow of arms, ammunition and equipment to our fighting forces.

"Our industry has indeed been fortunate in that despite many difficulties, we have been able to carry on. Few, if any, companies in our field have been compelled to discontinue business, for when certain products or raw materials were no longer available, our scientists promptly came to the rescue with other materials from which to make our products or manufacture new ones, many of which are here to stay.

"The cooperation we have received from various government officials has been heartening and most cordial relations exist between them

# T MANUFACTURERS MEET IN CHICAGO

in synthetic disinfectants, sprayer problems, dairy sanitation; post-war planning and roach testing methods



GORDON BAIRD, 2nd Vice-Pres.



H. W. HAMILTON, Secretary

and our association. But the danger remains of more and more government encroachment upon private business. It is a tendency which seems to be growing, one which merits our most careful thought and action if private enterprise which has built America is to continue.

"There is no doubt in my mind that the outlook for our industry in peace time is bright, but competition will be keener than ever. It behooves us, therefore, to be prepared for more intelligent, aggressive merchandising methods. We cannot reach the pinnacle of efficiency if we must continue to be regulated by government edicts, directives, and stipulations. Surely American industry has proved that it is capable of accomplishing any task that confronts it when given a free hand. Thinking men everywhere are much concerned about the usurpation of private rights by government. Individual initiative made America great. Individual initiative will keep it so!

The report of secretary H. W. Hamilton of White Tar Division of Koppers Co., Kearny, N. J., was also

presented at the opening session. Mr. Hamilton reported as follows:

DURING the period up to June 1st a total of 65 bulletins have been issued by the association office this year. Many of these were rushed and we were successful in getting information into the mails before midnight of the day on which it was received. Special mailings have been made of literature and copies of the NAIDM advertising, part of the co-operative campaign, have been sent to you.

"The routine activities of the executive office have been greatly increased during the present year. Our membership is now 124 active, 34 associate, and 2 honorary. This is a most gratifying increase and is indicative of the interest of the industry in the affairs of the association. It must also reflect the fact that companies in this field recognize the benefits to be obtained through membership.

"It has been necessary to arrange temporary changes in our Washington representation. This has been due to readjustments caused by the war.

We are fortunate in having capable and adequate Washington representation at this time and with the end of the war a more permanent arrangement can be brought about. Our Washington representation at the present time is through people who are not new to our problems since they have been connected with our work for the past few years. We have already received several helpful reports from them. I believe the arrangement will be satisfactory.

"State legislation has been watched. Your Secretary has also maintained a contact with many of the state officials whose duty it is to enforce the various laws. We have found them very cooperative. Personal calls have been made on some of these officials. Our association has been given a representative on the legislative advisory committees in the states of Oregon and Washington. In this manner it is hoped that the enforcement officials and the law-makers will be kept fully advised of the requirements of our industry and the reasons for these requirements.

"The city, state and federal laws and regulations which affect this industry are many and complicated. It is of importance to every person or company engaged in this industry or affiliated with it to assist in the vigilance and cooperation required to assure fair and workable laws when needed, while these are being prepared, and after the laws are passed to cooperate with the enforcement officers to see that the regulations issued to carry out the law are workable. We have found that just laws are of real value to our industry. Proper regulations issued under a law are a help to the legitimate commercial enterprise. It is our duty as individual members to assist in the formulating of good laws and to be helpful in a constructive manner to the law en-

forcement officials. The experience of this association is available at all times to any one connected with the making or enforcing of laws or regulations dealing with the particular problems of manufacture and merchandising of the products of the industry. The legislative committee is one of the most active committees.

"A chart of state laws applying to this industry has been prepared. It was rather a large task, completed by our former Washington representative just before he left for active duty in the Navy. Each member will receive two copies of this digest and complete revisions will be made periodically as necessary — perhaps every two years. In the meantime, corrections, additions, etc. will be issued as they develop so that you may keep your chart up to date at all times.

"The relationship of the executive office with the various war agencies continues on a most friendly and cooperative basis. All agencies have kept us quite well informed of their activities and probable effect on our industry. We welcome their requests for data and an effort is always made to supply information to the agencies to the best of our ability. Our requests for advice and assistance have met with prompt response and action when needed.

"Our committees are doing much better in sending in copies of their correspondence and minutes of committee meetings. This is most helpful to the executive office in advising members of progress being made by the various committees. However, there is still room for improvement and we again urge that committee chairmen should issue progress reports to the executive office from time to time so we may inform the membership as a whole. This should be done after each committee meeting and as frequently as necessary. The executive office has been used for more meetings and those of us who are closely associated with the work of the office are pleased to see this. When you are in New York, or near Grand Central if you live in New York, you should call at the executive office—it is your association.

"The Official Test Insecticide for 1944-45 is now available for distribution. Only a small amount of the 1943-44 was left over. The fact that this was a small amount, and that all demands have been fulfilled, is an indication of the careful planning and work of the Committee on the O.T.I. The detail of the preparation of the O.T.I. is very exacting and takes valuable time. We should extend our unanimous vote of appreciation to those who do this task for us. Requests for the O.T.I. continue to come from many foreign countries.

"Our executive committee has met many times and telephone requests for advice and decisions have had immediate cooperation at such times when meetings could not be called. This plan of operating through the medium of a small but representative executive committee appears to be very successful.

"During the year I have had occasion to look into the past history of this association and its accomplishments. It is not proposed to burden you with these accomplishments here but it is the intention of the Board of Governors to have these facts brought to your attention later. It is a history of healthy, normal growth of an industrial group. The N.A.I.D.M. has an enviable record for its contribution to good business practices. It is respected by federal, state and city officials, as well as the industry and

consumers of its members' products. We feel that contributing to this is the fact that it is our practice to co-operate fairly with government and industry and in giving out as official only such information as we know to be fact. In the few instances where we found it necessary to send out information which might appear to be "rumor or hearsay" we have indicated that such information came to us either unofficially or verbally.

"The future can and will be filled with new and greater accomplishments in the fields of activity of this group. Many are in the making now and you will hear of them at this meeting. Every member of this association can be justly proud of being affiliated with this trade association—the National Association of Insecticide and Disinfectant Manufacturers. This association has a background that has already brought it national and international recognition.

"As a member, you can contribute to an even greater future. Your ideas and constructive criticism are solicited. Your continued cooperation in all our undertakings is requested. That which benefits the industry as a whole will also yield returns to the individual member."

The complete program for the 2-day meeting follows:

F. C. Nelson, Stanco, Inc. will lead symposium on post-war sprayers.



Melvin Fuld, Fuld Bros. will report on post-war planning.



- MONDAY MORNING, JUNE 12th**  
 Henry Nelson, *Presiding*  
 9:00 A. M. Registration — Michigan Room.
- 10:00 Meeting called to order.  
 Address of President, Henry A. Nelson, Chemical Supply Co.  
 Report of Secretary, H. W. Hamilton, Koppers Co., White Tar Division.
- Appointment of Committees.  
 Roll Call and Introduction of Guests.
- "Civilian Requirements for Insecticides." Dr. George W. Fiero, Office of Civilian Requirements, W.P.B.
- "Post-War Planning" — Melvin Fuld.
- Committee for Economic Development. Speaker: Newton C. Farr, Farr & Co., Chicago.
- "Prevention of Occupational Dermatitis." Speaker: Dr. Louis Schwartz, U. S. Public Health Service.
- "Red Squill." Speaker: Dr. D. D. Green, Fish and Wild Life Services, U. S. Dept. of Interior.
- 12:30 P. M. Group Luncheon.
- AFTERNOON SESSION**  
 N. J. Gothard, *Presiding*
- 2:00 Meeting called to order.  
 Announcements.
- "Coal Tar Situation." L. A. Schleuter, Coal Tar Section, W.P.B.
- "Review of Synthetic Disinfectants and Their Probable Post-War Position." Speakers: Dr. W. L. Mallman, Mich. State College; C. G. Marshall, Winthrop Chemical Co.; H. M. Corley, Armour & Co.; A. S. DuBois and E. I. Valko, Richards Chemical Co., Jersey City, N. J.
- 3:30 "Dishwashing Sanitation" — W. A. Hadfield, Pennsylvania Salt Mfg. Co.
- 3:45 General Debate—"Aerosols vs. Spray-Type Insecticides."  
 Chairman—C. E. Smith, Socony-Vacuum Oil Co.
- Aerosols—Dr. Lyle D. Goodhue, U. S. Dept. of Agriculture, W. W. Rhodes, Kinetic Chemicals, Inc.
- Sprays—N. J. Gothard, Sinclair Refining Co., R. O. Cowin, Standard Oil Co., Ohio.
- Summary — R. B. Stoddard, Dodge & Olcott Co.
- TUESDAY MORNING, JUNE 13th**  
 G. M. Baird, *Presiding*
- 9:30 A. M. Meeting called to order.  
 Announcements.
- "The Place of Insecticides and Disinfectants in the Prevention of Insect-Borne Diseases." Speaker: Dr. Gilbert L. Dunham, U. S. Public Health Service.
- Symposium on Post-War Sprayers. Discussion Leader: F. C. Nelson, Stanco, Inc.
- Hand Sprayers—  
 G. L. Russell, H. D. Hudson Mfg. Co.
- J. A. Arehart, Universal Metal Products Co.
- Electric Sprayers—  
 The above and  
 C. H. Bremmer, Breuer Electric Mfg. Co.
- M. B. Deutsch, Electric Sprayit Co.
- William Fromm, Dumore Electric Co.
- Diffusers—  
 E. J. Durkin, Tanglefoot Co.
- Fumeral—  
 P. J. F. Batenburg, Funeral Co.
- "Sanitation in the Dairy Industry." Speaker: Dr. L. K. Riggs of Kraft Cheese Co.
- "Are Household Insecticides Luxuries?" Speaker: Dr. O. F. Hedenburg of Mellon Institute.
- 12:40 P. M. Luncheon.
- AFTERNOON SESSION**  
 Henry Nelson, *Presiding*
- 2:00 Meeting called to order.  
 Announcements.
- "On Post-War Floor Treatments Back Your Front." Speaker: Mr. Elliott Spratt, Hillyard Company.
- "What is a Safe Floor Finish?" Speaker: Sydney V. James, Engineer Underwriters' Laboratories, Inc.
- Discussion of DDT. Speaker: Dr. V. Froelicher of Geigy & Co.
- "Production Outlook for DDT." Melvin Goldberg, Insecticides and Fungicides Unit, W.P.B.
- Toxicology of DDT. Speaker from U. S. Surgeon General's Office.
- Report of Insecticide Scientific Committee on Roach Testing Methods—F. C. Nelson, Stanco, Inc.
- "Institutional Market for Insecticides and Disinfectants." M. J. Evans, Evans Associates.
- "Insecticides in Europe at War." Speaker: Dr. Maria Pulaski.
- 6:00 Reception in West Lounge.
- 7:30 Informal Dinner in Michigan Room.

#### Rotenone Color Tests

Color tests for rotenone have been used to aid the search for substitutes in the form of domestic plants. Among these is the Durham test, in which a blue color is developed when rotenone is treated with nitric acid and then with ammonia, and the Gross-Smith-Goodhue test in which a red color is obtained when an alcoholic potassium hydroxide solution containing sodium nitrite is added to rotenone and the mixture subsequently acidified with sulfuric acid.

Caution must be observed in interpreting these color tests when they are applied to plant material other than *Derris*, *Lonchocarpus*, and *Tephrosia*. Positive color tests have been obtained with glucosides whose value as an insecticide remains to be determined. Rotenone should be reported as present in plants only when it has been definitely isolated and characterized. H. L. Haller. *Ind. Eng. Chem., Anal. Ed.* 16, 277 (1944).

*Dr. L. D. Goodhue, U.S.D.A. will participate in aerosol vs. spray debate.*



*R. O. Cowin, Standard Oil Co., Ohio, will take the spray side of the case.*



# INSECTICIDE TESTING...



**I**N SOME cases chemical analyses are not sufficiently adequate for satisfactory evaluation of economic poisons, and are supplemented by biological performance tests. A few years ago, most household sprays were simply extracts of pyrethrum in kerosene, and their quality could be readily determined by chemical analysis. Most of these products however now contain one or more organic intensifiers, synthetic toxicants, and similar ingredients which make chemical analysis very complicated or inadequate. Satisfactory evaluation of such complex materials must include more than chemical examination, and the Bureau of Chemistry, State of California Department of Agriculture, has no alternative but to resort to bioassays. This paper deals with methods for carrying on some of the more important performance tests of materials for control of household pests.

## Flies

**Rearing house flies.** The rearing of house flies for testing purposes is a continuous, cyclic procedure which is carried on with every possible precaution taken to assure flies uniform in vitality or susceptibility under the test conditions. A breeding stock of about 1500 flies is maintained in a one-cubic-foot cage. (cf. Fig. 1.) These flies are fed a carefully prepared standard food mixture and the stock is replaced with newly raised flies at regular periods. The most satisfactory results were obtained in this Bureau by using the media described in "Soap and Sanitary Chemicals Blue Book" official Peet-Grady method, using however, only one-half the recommended amount of media in one jar. When eggs are wanted, a cloth bag of bran mixture about the size of an apple is placed in the breeding cage. Within a few min-

utes, many thousands of eggs are laid on the bag. These are collected and made into a slurry with water, in which condition the number may be estimated volumetrically. One-tenth of a cubic centimeter contains approximately 500 eggs. (cf. Fig. 2(a)).

The large jars are half-filled with a moist mixture of coarse soft wheat bran, alfalfa, malt extract, and yeast. About 1500 eggs are washed into each jar with one or two eye droppers of water, and the mouth of the jar is covered with a cloth held tightly with rubber bands. These jars are set on shelves in the rearing room and maintained at a uniform temperature of 80 to 85° F. The eggs hatch in 12 to 24 hours, and the larvae feed throughout the bran mixture for 9 or 10 days. (cf. Fig. 2(b).) As they mature, they migrate to the upper, relatively dry layer of bran, where they pupate. (cf. Fig. 2(c).) A number of different methods have been used for separation of the pupae from the bran medium, for example, by blowing away the dry bran with an air jet, or by washing the bran through a sieve just small enough to retain the pupae, but this is time-consuming and unnecessary. We have found it more convenient to scoop up a portion of the bran medium estimated to contain approxi-

mately 600 pupae and place the mixture of bran and pupae in a suitable container in each cage. The adult flies (cf. Fig. 2(d)) soon start emerging from the pupae, and are fed on diluted milk in a device arranged to prevent their drowning. Four days later the remaining pupae are removed and destroyed. Three days after this, when all the flies in the cage are between three and seven days old, they are subjected to the insecticide test. Uniformity in handling, in the time of each step, and in feeding are scrupulously maintained to assure uniformity of test conditions.

**Testing fly sprays.** The bioassay method adopted by the Bureau of Chemistry for official analysis of fly sprays is the Large Group Modification of the Peet-Grady Method. The Peet-Grady test chamber is a six-foot cube equipped with a smoothly fitting door, windows, ports for ventilation and for injecting the sprays. (cf. Fig. 4.) Our test chamber in Sacramento is also arranged with a lever so it can be lifted slightly and clean absorbent paper slipped under it to cover the floor. The test chamber is installed in a separate room, and the only connection with the rearing room is by means of a small sliding window through which the cages of flies can be passed. This mini-

a review of test procedure for evaluating household insecticides for use in the control of flies, clothes moths, roaches and rodents

By Dr. Alvin J. Cox\*

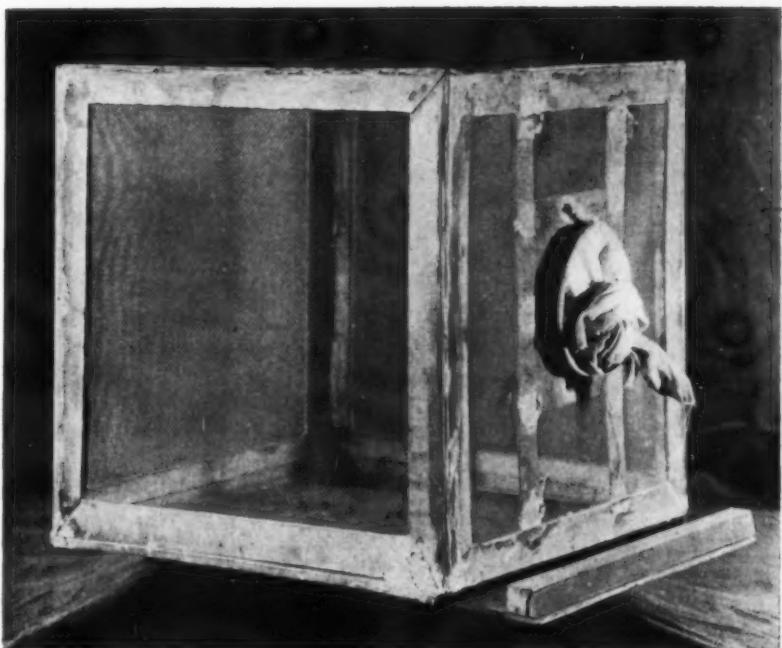
Chief, Bureau of Chemistry  
California Department of Agriculture

\* Based on an address before the War Emergency Conference of the Pest Control Operators of California, Inc., Los Angeles.

*Fig. 1. Cage used for house flies. Note the sliding door for liberating the flies into the test chamber, and the sleeve arrangement permitting manipulation while cage is full of flies.*

mizes any possibility of traces of insecticide coming in contact with the test insects prior to the official tests. During tests, the temperature of the room is maintained at 80 to 85° F. and the humidity between 40 and 70 per cent just like the rearing room.

A cage (cf. Fig. 1) of flies is passed through the window from the rearing room into the testing room. The flies are liberated into the Peet-Grady chamber. The number need not be known at this time. All vents are closed and 1.5 cc. of the insecticide are sprayed through each of eight holes arranged around the chamber by means of an especially efficient atomizer at a constant pressure of 12.5 pounds per square inch. This corresponds to a dosage of about one ordinary size drop of liquid atomized per cubic foot or about four fluid ounces to an ordinary size room in a home, which is probably much more than is applied by the average user. The flies are exposed to the spray for exactly 10 minutes, at which



time all screened vents are opened and a powerful exhaust fan ventilates the chamber. All dead and paralyzed flies are picked up by means of a small suction apparatus and counted. If any active flies remain, they are killed with a swatter and counted, although most sprays give complete knockdown under conditions of the test. The dead and

paralyzed flies are placed in a clean cage with food and put back in the rearing room. Approximately 24 hours later, the flies that show no signs of life upon being touched are counted as dead. The percentage kill is calculated. The cage is then set in an oven for a few minutes to kill all remaining flies. After each test, the Peet-Grady cham-

*Fig. 2 (a) House Fly Eggs*



*Fig. 2 (b) House Fly Larvae*



*Fig. 2 (c) House Fly Pupa*





Fig. 2 (d) Adult House Fly

ent laboratories. Under conditions of the test, the Official Test Insecticide gives a kill of 30 to 55 per cent of the flies. The kill obtained by any tested product is compared with that obtained by the Official Test Insecticide run at the same time. By definition, the Official Test Insecticide is a Grade B spray. If the kill obtained by a tested product is within plus or minus 5 per cent of that obtained by the Official Test Insecticide, the tested product is a Grade B spray. If the kill is between 6 per cent and 15 per cent above that of the Official Test Insecticide, the product is a Grade A spray. If the kill is 15 per cent or more above, the product is a Grade AA spray.

The grade of a fly spray is not now required to be stated on labels of products sold in California, but more and more registrants are finding it of value to include such a statement on their labels. If the grade is stated, the product must conform to that standard of quality. No product is registered unless it is at least Grade B. Even a Grade B spray gives approximately 100 per cent knockdown, but only about 30 per cent to 55 per cent kill. Since more than half the flies commonly recover from such a spray, it is important for a householder to sweep up and destroy fallen insects soon after spraying.



Fig. 3. Jar of bran mixture with developing house fly larvae.

#### Clothes Moths

**R**EARING clothes moths. There are three fairly common moths injurious to fabrics—the webbing clothes moth, the case-making clothes moth, and the tapestry moth. Injury from the last two is rarely reported in California. The webbing clothes moth is the most important, and is the species reared by the Bureau for testing products sold in this state.

Several techniques may be used for rearing a continuous supply of these and other insects of similar habits, but the method found most convenient and successful by our laboratory involves raising them in individual batches in fruit jars. About 150 to 200 newly emerged adult moths are placed in a quart fruit jar. The glass top is replaced by a sheet of filter paper held in place by the jar ring. The jar is placed on its side on a dark shelf, in the warm rearing room, and after one or two days, a large number of eggs are laid on the sides of the jar. The adult moths are then removed by means of a suction pipette. Several ounces of powdered dog food are added after heating in an oven sufficiently hot ( $135^{\circ}$  F. for one hour) to kill any mites or other pests that it might contain. The jar is kept in the dark, and

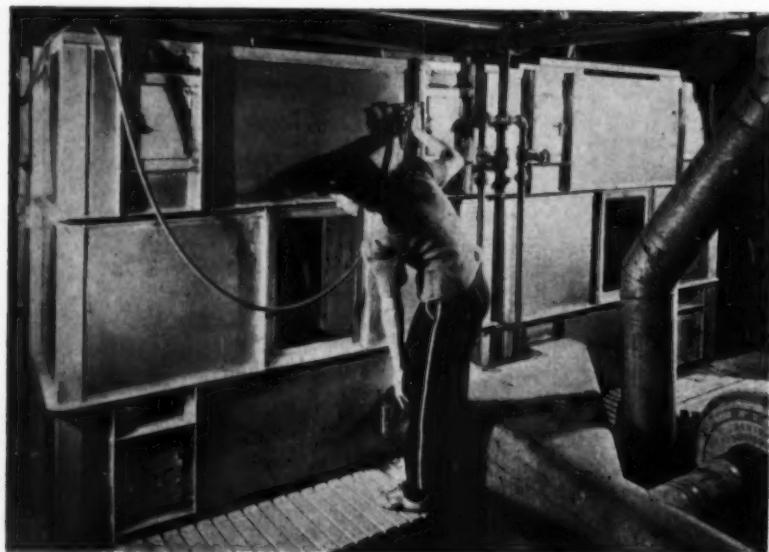


Fig. 4. Peet-Grady Test Chamber at plant of Robm & Haas Co. where test method was originated.

after three or four days, the eggs hatch and the larvae work down into the product food. (cf. Fig. 5.) About 25 to 27 days after emerging from the eggs, the webbed larvae are sifted from the powdered food and spread out on a tray. The larvae crawl from their webbing in 10 or 20 minutes and are gently transferred to the test fabric by means of a soft brush.

*Testing materials intended to treat fabric for control of clothes moths.* Twelve circular pieces, each having a total area of two square inches, are cut from (*Soap and Sanitary Chemicals* (1942) Dec., p. 117) a standard test fabric. The material to be tested is applied according to the manufacturers' directions to four of the pieces. All 12 pieces are dusted with brewer's yeast to simulate the nutritive factors found in ordinary soiled cloth. The 12 pieces are brushed carefully with a toothbrush to remove loose matter and each is weighed on a delicate analytical balance and placed in a separate pill box. (cf. Fig. 6.) Ten clothes moth larvae 25 to 27 days old are transferred to each of the four treated pieces and to each of four untreated pieces. The remaining four pieces are reserved for checks and permit a correction to be made for changes in weight of the test pieces due to humidity. All 12 pill boxes are covered with tight-fitting organdie and are placed in a dark cupboard in the rearing room maintained at a relatively constant temperature and humidity. Two weeks later, the pieces are again carefully brushed to

Fig. 5. Webbing Clothes Moth Larva.

remove loose matter and are again weighed. The untreated pieces usually show a loss of about 30 milligrams in weight, and the treated pieces should show no more than 8 or 10 milligrams loss. To be satisfactory, the nap or surface feeding of the treated pieces should not show damage to over 5 per cent of the surface area.

*Testing fumigants of low volatility for control of clothes moths.* The container is essentially air-tight and the total inside volume, including that of the fruit jar is exactly one cubic foot. (cf. Fig. 7, see page 149.) An approximate amount of the fumigant material to be tested is placed in the fruit jar. The apparatus is assembled and allowed to stand a day in the rearing room to permit approximate saturation of the air. A set of 12 pieces of test fabric are prepared in pill boxes as previously described. Four are kept for humidity checks; four are supplied with moth larvae and kept in a separate container near the testing apparatus; and four are supplied with moth larvae for submission to the effect of the fumigant. The apparatus is unfastened, these four pill boxes are quickly set in the upper container, and the apparatus is immediately re-connected. After a suitable time in the rearing room, the test fabrics are examined for visual injury and loss of weight and the condition of the larvae is noted. Results can



also be compared with those obtained by test of materials used for impregnating fabric.

*Testing repellents for control of clothes moths.* There are many possible ways of testing the effectiveness of repellents on clothes moths and, as work progresses, this Bureau will hope to develop several techniques to be adopted according to the specific directions for use made with regard to the particular product to be tested. The apparatus is set on a particular shelf in the testing room selected for uniformity of lighting and temperature. (cf. Fig. 8, see page 149.) After 24 hours, counts are made of the number of insects in each jar. The test is repeated after interchanging the position of the two jars to avoid any possible effect of external factors such as light or heat gradients.

*Testing other products for control of clothes moths.* Other techniques of testing fabric treatments and fumigants are also under study by this Bureau, and some experimental use is being made of the Peet-Grady chamber for evaluating effectiveness of materials for control of clothes moths. Test fabrics on which larvae have been placed

(Turn to Page 149)

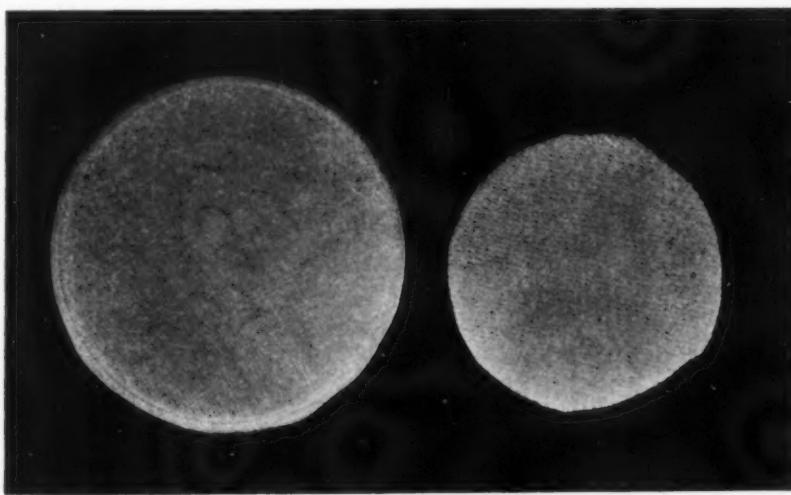


Fig. 6. Covered Pill Box (left) and standard test fabric for clothes moths.

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# A POST-WAR View of DISINFECTANTS

*By Jack C. Varley*

*Baird & McGuire, Inc.*

**T**HE war has greatly speeded the development, sale and consumption of disinfectants, and many new products which would ordinarily have required years of selling effort to introduce to the public, have been accepted and approved virtually over-night by the consumer. Under ordinary conditions the average consumer is hesitant to try anything new. This is true of almost any commodity—too radical a change invariably scares the buyer. He likes to be led gradually into the new way of things.

So it was with the introduction of the newer type of disinfectants which in the past year have become so popular. These disinfectants have been in the process of development for at least seven years. Research has been extended in many directions to determine chemical, germicidal, toxic, and bio-chemical properties. To the manufacturers of disinfectants, these raw materials are not new—but in many cases, their complete potentialities have not as yet been utilized. An effort was made to introduce them several years before the war but because of their revolutionary difference from the old accepted types of disinfectants, the sale of these products met initially with little, if any, success.

The situation was reversed abruptly after this country entered the war because the supply of raw materials used in manufacturing the accepted types of disinfectants (cresylic, coal tar, and pine oil) became extremely short because these basic ingredients were needed more critically

elsewhere. Regardless of this situation the Army and Navy still needed large quantities of germicide and it was up to the manufacturers of these products to supply almost over-night large volumes of the newer type germicides. These modern germ killing agents were found to be so excellently suited for the Army and Navy needs that they have continued to purchase them even though some of the raw materials used in the manufacture of the older type disinfectants are now more freely available.

Naturally, domestic users of disinfectants also had to have some sort of reliable germicide in order to maintain sanitation at a time when sanitation became of increased importance. Having little choice in the matter they tried out the newly developed germicides and found them, probably to their surprise, considerably more efficient and pleasant to use than the older type products. This is without a doubt the feature of the new materials that appeals most to the average user of disinfectant—the pleasant odor, or lack of odor. Although other qualifications are of more importance, most buyers want a pleasant odor first and then they will investigate toxicity, phenol coefficient value, etc. This is as it should be—evil smells do not destroy bacteria and today's buyer looks for the disinfectant that *does the job quickly and safely* and at the same time has a distinctly pleasant odor.

There seems to be little doubt that so-called "post-war disinfectants" are here already and in wide use and by the time the war is brought to a conclusion they should be firmly en-

trenched in both consumer and wholesale markets.

These newer germicides are specifically designed to fulfill certain particular requirements—they aren't haphazard compounds that just happened to destroy germs and at the same time emit a startling and fearsome odor. Instead, these newer disinfectants, as a general rule, are non-specific in action and even when diluted greatly, destroy both resistant and non-resistant micro-organisms easily. In addition a great many of them can be pleasantly scented with essential oils. The germicide itself is practically odorless and any number of fragrant perfumes can be added to make the finished product even more attractive to the ultimate user.

It would seem that the old conception that a disinfectant had to have a strong, pungent odor to be effective is on the way out. The post-war disinfectant salesman is going to have to be educated to sell products that are pleasing to the sense of smell. Competition will come back and distributors who don't keep up to date on these new developments will most surely find their sales dropping. Manufacturers should pass along all available information on these products to the distributor who in turn should see that his salesmen are fully advised. Selling of disinfectants after the war can be made a lot easier if the salesman has a good product, knows it is good and *why* it is good.

Sanitation in war plants, defense industries, camps, or any area in which large numbers of persons gather daily, is of utmost importance in preserving high health standards. It is

definitely established that this high degree of sanitation cannot be accomplished by the use of "soap, water, and elbow grease" as some persons are prone to believe. Safety engineers in the larger war plants know this to be the case and are making use of germicides specifically designed for a definite purpose. Because of the wide-spread use of germicides in war plants, workers are becoming more conscious of standards of cleanliness. When these persons, at the close of the war, go back into private industry or into their homes, it is bound to follow that they will, to a great degree, carry with them the idea of using disinfectants to maintain germ-free surroundings.

Has it ever occurred to you just why the average housewife doesn't use disinfectant in cleaning the bathroom? —it's not because she doesn't need it—it's because she doesn't want her friends to *think* she needs it. The strong odor commonly associated with disinfectant was too embarrassing to use freely. It stands to reason that a fragrantly scented germicide for household use would boost sales tremendously. Odor is definitely important.

It seems obvious that after the war almost everything we use in our daily life will be improved—there will be new inventions, new scientific discoveries, new medical discoveries, new cars, new home fixtures, etc. Certainly the man or woman who has been working in a modern defense plant equipped with all the latest model sanitary equipment is not going to go back into a private industry offering old time, ill kept, unsanitary premises. The people in this country have never gone backwards, there has always been a trend toward bigger and better things and there is no reason to surmise that after this war the course will not continue in the same direction.

Hospitals, sanitariums, and recreation centers are being built as fast as labor can put the material together. There will be, in addition to those already being taken care of, numbers of injured service men who will come back from the war requiring weeks, months, and even years of hospitalization. These recovery centers have been and still are under construction so that

at the conclusion of the war there will be ample space and equipment to take care of the injured in the very best means possible. Hospitals and institutions have always been large users of germicides and antiseptics and after the war they will be even larger users. In fact, it may be true that hospitals and institutions will be the greatest consumer of germicides in the post-war era, at least for several years. The construction of every hospital means just that many more square feet of area that must be kept immaculately clean and as free from germ life as possible—this can only be accomplished by the proper use of germicide.

**A**MONG the germicides which have come into popular use in recent months, two types seem to be outstanding. These are commonly known throughout the trade as "synthetic or substituted phenol germicides" and "organic amines and ammonium compounds." Both types seem well suited for general disinfection although they differ entirely in their general characteristics.

The popular conception of a disinfectant is that the product shall disinfect and clean in one operation. Industrial germicides for use on inanimate objects have always been formulated with this idea in mind. A combination of saponifying agent and germicidal agent was made and the resultant product rated for its germicidal efficiency. For example, coal tar disinfectants, pine oil disinfectants and cresylic disinfectant all possess excellent cleansing properties along with certain rated germicidal values. Nearly every user of disinfectant expects the product to possess cleansing powers. This is particularly true in disinfection of surgical instruments, operating equipment, sickroom linens, floors, walls, etc.

The synthetic phenol germicides usually consist of one of the substituted alkyl, aryl and aralkyl phenols, or their chlorinated or brominated derivatives in combination with a suitable saponifying agent. We have then in these products, a combination of the best features of the old type disinfectant with the improved features ob-

tained by the use of the newer substituted phenols.

The quaternary ammonium compounds are not compatible with soap, and in fact, cannot very well be used with soap because such a combination destroys their germicidal efficiency. On the other hand, manufacturers of quaternary ammonium compounds claim that it is not necessary to use soap with their products because they have a natural wetting action which gives the necessary cleansing value. Claims are also made that these products are virtually non-irritating to the skin tissue and that their germicidal efficiency is far superior to that of other commercial disinfectants.

There is no reason to believe that coal tar, pine oil, and cresol disinfectants will drop completely out of use. On the contrary, these compounds will retain the greatest part of their popularity with users. With a broadening market, and with the new users demanding recently developed products and a great number of the old users changing over to newer types of disinfectants, there may be a slight decrease in the sale of coal tar, pine oil, and cresol disinfectants. In the hospital field particularly, cresol and cresylic acid disinfectants are being replaced rapidly by synthetic phenol and quaternary ammonium germicides.

Pine oil, because of its pleasant odor and low skin toxicity, will probably always be a favorite disinfectant for use in certain spots where coverage of disagreeable odors is desired as well as disinfection properties.

Coal tar disinfectants will probably suffer little, if any, in sale because the greatest percentage of coal tar disinfectant used in this country is in the form of stock dip. In this instance it performs a dual purpose—it acts as a disinfectant and as an insecticide in one operation. It is widely used throughout the country for dipping of livestock and poultry and as a germicidal paint in barns, poultry houses, etc. For the time being, the newer disinfectants will not make any inroads into this particular field until their insecticidal value has been proven.

Without a doubt, after the war is over this country will continue to

raise cattle, sheep, and hogs on an above normal scale, if only to help supply the European countries. A large cattle raising program always means an increased sale of coal tar stock dip and it seems a safe prediction that the post-war era will see continued large volume production of coal tar dip and disinfectant.

There is still so much research to be done on raw materials used in both of the new types of germicides that it is impossible at this time to state which of the two is liable to become more popular in future years.

In recent months there has been some discussion of air disinfectants—products intended to disinfect or sterilize the atmosphere in closed premises. Whether or not this will ever reach the stage where it can be utilized for average use is still debatable. Such an air disinfectant would be admirably suited for use in operating rooms or in premises where persons with communicable diseases were housed. At the present time the effectiveness of such chemical disinfection of the air seems to depend greatly on temperature and humidity, factors not very easily controlled in the average building. No doubt further developments in the utilization of products for air disinfection will be forthcoming within the next few years. The scope for their use seems a bit limited however.

Some time ago various pieces of equipment were placed on the market where were to be used for sterilization of inanimate objects such as glasses, dishes, enamelware, bathroom equipment, etc. The equipment bathed the objects in ultra-violet rays. For a while this type of equipment seemed popular, but for some reason, maybe the trouble involved in operation, less and less has been heard concerning them. Here again is an excellent idea, but because it requires additional labor or effort to obtain the proper benefits, it falls into disfavor with the user.

It must always be kept in mind that the man on the street is looking for something that will save time, labor, or effort—anything that means another motion on his part is bound to be cast aside for the product that will save that motion.

Summing it all up, it seems a foregone conclusion that the market for disinfectants in the post-war era is going to be large. Institutions, industries, and homes will all use larger quantities than before. The newer pleasantly scented, non-toxic products are most certain to find favor in the after war markets because the many thousands of persons who have become acquainted with these disinfectants during war time certainly will not put up with strong, pungent smelling products during peace time—there is no reason why they *should* buy them or why manufacturers should make any effort to sell such products.

The older type disinfectant will continue to move in volume because of its insecticidal value in the agricultural program. It must be borne in mind too that these products still have a large following and there are certain uses for the materials that make them preferable to the newer types.

The perfect disinfectant has not as yet been discovered, but in the past few years more ground has been covered toward that goal in this field than in all the past decades. All in all, with better products and better markets in the offing during the post-war period, the outlook for increased production and sale of disinfectants is extremely favorable.

#### Describes Nicotine Research

The search for new and improved insecticides conducted by U. S. Dept. of Agriculture scientists has developed considerable new knowledge regarding nicotine as a contact and stomach poison and as a fumigant, a report presented at the recent convention of the National Farm Chemurgic Council in St. Louis, Mo., reveals.

Current research conducted at the Eastern Regional Research Laboratory has been directed to development and testing of new forms of fixed nicotine compounds, new and improved compounds for use as activators of nicotine, nicotine carriers and the further development of methods for production of nicotinic acid and nicotinamide from nicotine. The report was presented to the St. Louis chemurgic conference by H. T. Herrick, director

of the Northern Regional Research Laboratory, in a survey summarizing accomplishments of all the four regional institutions.

"In connection with studies (at the eastern laboratory) on preparation of new nicotine compounds for use as insecticides," said Mr. Herrick, "a number of additional nicotine-metal double salts have been prepared. Many of the double salt compounds have now received preliminary testing against insects and some five or six appear to have notable toxicity. These include certain copper and zinc combinations which may be suited to commercial production.

"A new type of nicotine-metal compounds—the nicotinamino type—has now been made. Compounds of this type are prepared by reacting the free alkaloid with certain metal salts. A number of them show unexpected stability and desirable physical properties, and their preparation is simpler than that of the double salts. Tests of their insecticidal action are now in progress, in cooperation with the Bureau of Entomology and Plant Quarantine.

"In cooperation with other government agencies, a formula has been developed for insecticidal dust for use against pea aphids which calls for a reduction of rotenone content from 1.0 to 0.5 per cent and the addition of 2.0 per cent of nicotine alkaloid and 10 to 20 per cent of sulphur. This formula and similar ones with slight variations, involving the conservation of imported rotenone-containing dusts, have given satisfactory control in field tests."

#### Insecticidal Values

Methods are given for testing biologically petroleum-oil extracts of pyrethrum as direct sprays and toxic films, with the red flour beetle as test insect. Tests showed that a direct spray of petroleum oil-pyrethrum preparation was 1.085-1.15 times as effective as a film of the preparation to which the insect was exposed after deposition. Increasing the concentration was more effective than increasing the deposit. F. Tattersfield and C. Potter. *Ann. Applied Biol.* 30, 259-79.



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# RED SQUILL

*Leonard R. Parkinson*

*Agricultural Experiment Station,  
Massachusetts State College, Amherst, Mass.*

**T**HE use of red squill as a rat poison has been known for several centuries. In modern times it has received widespread, often official recognition. The Danish Anti-rat law of 1907 forbade the use of strichnine, arsenic, and sulfurous preparations for raticides as dangerous to domestic animals and human beings; it thus left the field open to red squill. A German research worker listed nine commercial preparations of red squill that were offered for sale in the year 1912. The British Ministry of Agriculture and Fisheries recommends the use of red squill as a raticide. The use of red squill as a rat poison is officially sanctioned by the Public Health and Agriculture Departments of the United States and Great Britain.

**Botanical Description:** —There are two commercial varieties of squill, the red and the white, but they are not distinguishable botanically. Red squill belongs to the *Genus Urginea* and its botanical name is *Urginea maritima*. It is often called scilla or sea onion. It is a perennial, pear-shaped bulb belonging to the lily family. Squill bears a flowering stem and leaves, which freshen at different periods of the year and subsequently fade. The bulbs are large, being from three to ten inches in diameter and weighing from one to six pounds each. The entire bulb consists of closely over-lapping, fleshy scales. The outer scales are dry, brittle, and reddish brown. The inner scales vary from light yellowish white to deep purple; the central scales are usually white. The plant grows both wild and under cultivation in Southern Italy, Sicily, Sardinia, North Africa, and other countries bordering on the Mediterranean Sea.

Squill appears in the pharmacopoeia. The white variety is used in human medicine as a heart tonic, emetic, diuretic, and nanseant expectorant. Red squill is official in France, having all the properties of white squill. In addition it contains other constituents which are particularly toxic to rats. These constituents have not all been isolated or positively identified.

**Chemistry:** There has been much research done on the chemistry of the active constituents of red squill, but it never has been wholly isolated or positively identified. It is pretty generally agreed that the toxic principle is a glucoside, that is a chemical compound characterized by the fact that on hydrolysis it will yield a simple sugar. An early European worker isolated a glucoside which he called scillitin. It was very bitter, slightly soluble in water, completely soluble in alcohol, and had a yellow color. He considered this the toxic principle. Still another worker isolated xanthoscillide, a yellow crystalline glucoside, soluble only in boiling alcohol. Scilliroside was isolated by Stoll, a Swiss worker, who states that this glucoside is the active principle. A fourth man isolated a water soluble toxic substance, but it was not identified. Calcium oxalate was universally recognized as being present in squill and was thought at one time to be the toxic principle. Subsequent investigations however have proved this belief to be untrue. Recent studies have shown that the toxic principle is almost entirely soluble in ethyl alcohol and that a large portion is also soluble in water. There remains much to be done on the chemistry of red squill.

**Effects on the Rats:** Rats that have eaten a fatal dose of red squill

usually become at first somewhat lethargic. The period of this lethargy may last from four to twenty hours, during which time the animals do not seem to be in any pain. Shortly after this period, however, they exhibit typical tremors and a partial paralysis of the hind quarters. This stage is followed by a progressive paralysis of the trunk and forelegs. Breathing appears difficult, and the rate of respiration increases. Also during this period, the animal rolls over in a striking and characteristic manner. This rolling motion continues at frequent intervals until death. The rat is apparently in great pain, and rarely recovers if these symptoms are observed.

Post mortem examinations have indicated that death following squill poisoning is due to respiratory rather than cardiac action. Some hemorrhage areas are commonly observed but the extent of hemorrhage does not seem sufficient of itself to be the cause of death. The discovery in 1938-39 by workers at this laboratory that the sex of the rats had a marked effect on the evaluation of the toxicity of red squill powders was a forward step. Workers at the Wildlife Research Laboratory at Denver, Colorado, experienced the same opinion regarding the relationship of sex and toxicity at about the same time. It was found that a normal male rat requires about twice the amount of squill to produce death that will kill a normal female rat. Several researchers regard altitude (i.e., density and air pressure) as another factor in the evaluation of a red squill, but this view still needs some clarification.

**Traditional Methods of Preparation:** The agricultural practice under which squill is grown has a marked

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*Above: Squills are brought to market—a pre-war scene in Southern Italy, center of the most important squill producing area. Below: The squills are sliced by female workers before being put out to dry in the sun. Photos courtesy of S. B. Penick & Co., New York.*



effect on the ultimate toxicity of the bulb. In some areas squill is grown under carefully controlled methods, and the squill from these areas is usually of better quality than that which is grown "wild." The bulbs are gathered in the spring, deprived of their roots and dry membranous outer scales. They are then cut transversely into slices or chips and either sun dried or oven dried. The oven-dried chips are preferred, as a much more uniform toxicity is obtained in squill thus dried.

*Modern Advances in Method of Preparation:* In this country, the United States Fish and Wildlife Ser-

vice, Division of Predatory and Rodent Control, have made several important contributions concerning the processes of manufacturing red squill powder. They were one of the first agencies to discover that it was necessary to dry red squill powder under carefully controlled conditions in order to obtain a powder of maximum toxicity. Their findings were substantiated by workers from this laboratory. After being dried, red squill should be packed in air-tight containers, or otherwise the moisture absorbed from the air will cause the powder to harden. Thoroughly dried powder does not deteriorate

and will retain its original toxicity indefinitely.

*Modern Commercial Preparations:*

Many squill extracts are on the market today, some of them very good, others are relatively inert. These extracts will vary as much as the powders from which they are made. It is well to purchase only those products which have been tested for toxicity at reputable laboratories. Also on the market are rat baits with red squill as their active toxic principle, and these too are only as toxic as the squill powder that goes into them. Experiments at this laboratory have shown that toxic extracts can be used as efficient rat poisons. In the preparation of these extracts the entire removal of the red color from the red squill may be used as an indicator to show whether or not there has been a complete extraction of the toxic principle. Some years ago bulbs were brought to this country whole, where they were sliced, dried and ground under carefully controlled conditions. Tests made later at this laboratory showed that the squill bulbs processed in this manner resulted in a product of good quality and high toxicity. Some of these raw dried squills tested as high as 400 mg/kg. War conditions, however, make this method of obtaining red squill supplies neither practicable or possible.

*Present Situation:*

The Federal Government recognizing the economic importance of controlling and, if possible, the eliminating of the rat population, has entered into the red squill picture. Classifying red squill as a war necessity, they have made possible importations of several thousand tons of red squill chips. Through the WPB in Washington, allocations of these squill supplies have been made to certain companies to prepare and distribute these squill stores. Because of the war, only hit-or-miss methods of raising and collecting these squill chips is possible; and the subsequent sun drying under uncontrolled climatic conditions can only result in products coming to this country which vary considerably in toxic quality. In order to overcome this variability, the Government through the Fish and Wildlife Service

(Turn to Page 153)

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# DDT OUTLOOK...

**S**OME of the early background on DDT was outlined and a number of false reports on development of this extremely interesting insecticide corrected at a press conference conducted by Geigy Co., New York, following a luncheon at the Hotel Pennsylvania, New York, May 31. DDT, short for dichloro-diphenyl trichloroethane, is the active ingredient in the new U. S. Army louse powder, and numerous other insecticidal uses, both war connected and post-war, seem to be indicated for it. Its dual function as both a stomach and contact poison, its high degree of residual toxicity, and its relative non-toxicity to humans have aroused an almost phenomenal interest in its many possible insecticidal applications unique in the record of insecticide developments.

Approximately 300,000 lbs. per month of DDT are being made today for the military and naval forces by four American chemical manufacturers, and it is anticipated that by the first of 1945 production may reach 1,700,000 lbs. per month. Six additional chemical manufacturers are reported planning on producing the material in the near future. Use patents on DDT are held by Geigy Co., which have no effect in restricting current production by others for the armed forces, but which have important post-war implications. Military secrecy still envelops certain important phases of the manufacture and effectiveness of DDT, and this secrecy together with the desire of conflicting agencies to claim credit for development of DDT has accounted in a large measure for a considerable volume of misinformation regarding DDT which has gained circulation.

A group of editors of trade and popular magazines and newspapers were advised by a representative of the Geigy Co. at the May 31 luncheon that DDT was first synthesized in 1874 by

Expect 1,700,000 pound monthly production by January, 1945...other manufacturers plan to make DDT in addition to four now producing for war uses..early background outlined and much published misinformation corrected at Geigy press conference

a young German chemistry student, Othmar Zeidler, in Strasbourg. His discovery was a routine accomplishment in connection with a thesis he was preparing, and he regarded the product as a casual test tube evolution of no particular significance. Zeidler apparently had no idea of the insecticidal values inherent in the formula, and these until very recently had neither been recognized nor put to use. The formula lay dormant until a few years ago when Paul Muller, research worker for J. R. Geigy of Basle, Switzerland, in routine testing of a

number of formulae synthesized the product from Zeidler's account of his early work in the *Proceedings of the German Chemical Society* and discovered its surprisingly good insecticidal properties. In 1939 Geigy supplied a test quantity of the material, later called "Gesarol," to Dr. R. Weismann for use in experiments designed to control the Colorado potato beetle on the Swiss potato crop. His experimental work confirmed the Geigy findings as to the insecticidal value of DDT.

Shortly after these agricultural applications were discovered, Geigy re-

**A**MONG the speakers at the Geigy luncheon was Dr. F. C. Bischoff, assistant chief, Bureau of Entomology & Plant Quarantine, U.S.D.A. He indicated that the Bureau is not yet prepared to give DDT a spotless bill of health so far as agricultural uses are concerned. The Bureau is still checking on DDT and will have a better picture as to its potential agricultural uses in the fall when more of these tests have been completed. Complications in use of DDT arise from its high residual toxicity and its selective insecticidal action. When DDT is used against one pest the possibility exists that because of its high toxicity it may also destroy insect parasites which are natural enemies of the parasite sought to be controlled. Another disadvantage which exists for some applications is that while it controls one pest it may not control another. Thus for use on apple trees, DDT controls the codling moth but is not effective against the red spider.

Lt. Col. A. L. Abnfeldt of the Office of the Surgeon General also spoke, outlining the experience of the Army with DDT in Africa and Italy. Prior to use of DDT the Army was already employing what Col. Abnfeldt described as an effective louse powder,—MYL, a pyrethrum preparation. They adopted the DDT product (10% reduction on pyrethrin) in May, 1943 after tests which indicated that it retained its effectiveness for 30 days as against only 7 days for the pyrethrum powder. An additional factor in the decision was the prime need for pyrethrum for mosquito control. A test application of the new DDT louse powder on 252 prisoners, 77% of whom were infested with lice, was checked after 16 days, and of the 151 who were still available for inspection none were found to be infested. Subsequently DDT was used to check a typhus epidemic in Naples. Approximately two and one-half million individuals were deloused in a period of a few months and the epidemic stopped. Col. Abnfeldt stated that no case of typhus has been reported to date on an American soldier in Italy. He indicated that besides use of powder an effective emulsion based on DDT for impregnation of under garments has been developed. It retains its effectiveness after eight washings extending over a period of two months. Production of DDT has not as yet reached a high enough point, however, to allow the Army to make standard use of this treatment.

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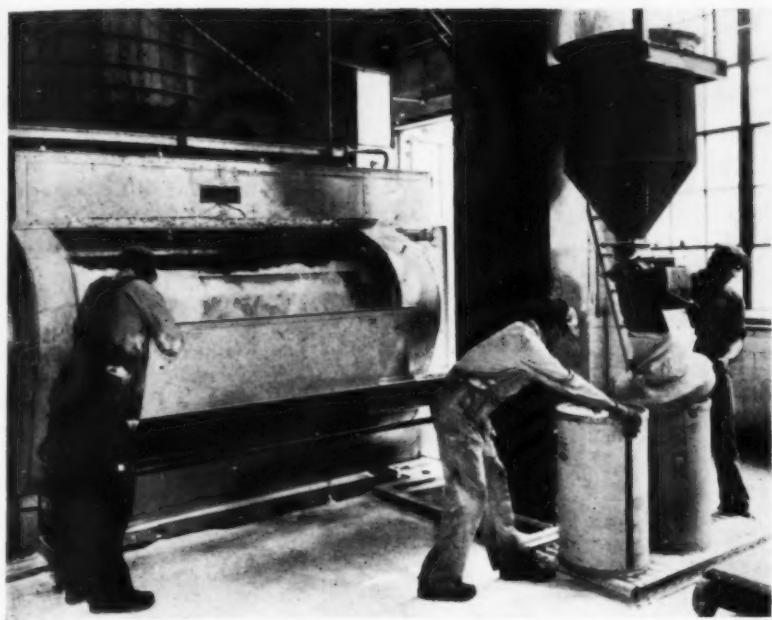
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*Production of DDT in plant of Cincinnati Chemical Works at Norwood, Ohio*

search workers established the efficacy of the product for louse control. An extension of DDT on inert talc was marketed for this use under the name "Neocid." The Geigy Co. advise that in August, 1942, the Swiss house of Geigy informed Major De Jonge, American Military Attaché in Berne, of this development, and at the same time notified their New York subsidiary. The following extracts from a statement by Geigy Co., New York, tell more of the details as to subsequent steps in remarkable recent history of DDT.

"Contrary to a false published story that a quantity was smuggled out of Switzerland, it was sent openly from Basle, as a regular transaction between the two divisions of the chemical firm. Another false story, that Geigy was unaware of the lousicidal properties of the composition, is refuted by records and correspondence showing that Geigy discovered its lousicidal properties and became active in bringing that quality to the Government's attention. Apparently Major De Jonge's report to Washington was delayed. Geigy, New York, therefore contacted the United States Department of Agriculture.

"Since nothing at the time was known by Geigy, New York, regarding chemical structure of the active ingredient, the active ingredient was ordered extracted from the only composition then available here (a finished agricultural insecticide, 'Gesarol'). This very small amount of extracted material together with a laboratory quantity synthesized by Dr. H. L. Haller of the U. S. Department of Agriculture was

sufficient to excite the interest of the entire department.

"Geigy, New York, was then requested to import a quantity of the active ingredient, DDT. The New York house obtained from Geigy, Basle, 100 kilos of the material, the greater part of which was donated to the Department of Agriculture. Thereafter, scores upon scores of the Bureau's experts undertook experiments in experimental stations all over the United States.

"The experiments confirmed Geigy's claims and proved so spectacular as to attract the attention of Colonel William S. Stone of the Surgeon General's Office and the Office of Scientific Research and Development. Colonel Stone's direction in this work was a great spur in bringing this lousicide from the research stage to adoption by the armed forces. He is in the field in Italy today. The Office of Scientific Research and Development had appropriated funds for this field of research to enable the Bureau of Entomology to go ahead. Dr. F. C. Bishop, Assistant Chief of the Bureau of Entomology and Plant Quarantine, Agricultural Research Administration, Charge of Research, United States Department of Agriculture and Dr. Walter E. Dove, Chief, Division of Insects Affecting Man & Animals of the Bureau of Entomology & Plant Quarantine directed activities. At the Orlando, Fla., testing station alone a staff of 29 scientists under the supervision of E. F. Knipling were assigned to investigate further possibilities of DDT compositions in combatting pests affecting the armed forces. Scientists throughout the country were enlisted in this effort to check on the startling results obtained and to determine the full extent of the efficacy of the DDT compositions against pests affecting the military. Too much credit cannot be given the Orlando station for the amazing developments of military uses for DDT compositions. The

29 scientists worked unheard of hours which resulted in having this weapon ready for the Italian campaign. Many of our servicemen and many Italian citizens owe their lives to the tireless efforts of those 29 men and their directors.

"Simultaneously and with the small quantity which could be spared, greenhouse investigations were started by various U. S. Department of Agriculture, State Experimental Stations and the Crop Protection Institute (sponsored by Geigy Company) and to these men and stations must go the credit for the great amount of scientific data which is now ready to enable as early use of DDT compositions for agricultural pests as will be permitted by the military organizations.

"Entomological investigation continues and it is safe to say that scientific data which under normal conditions would have taken all of eight years of effort to compile will be available in two years. Few will ever know what sacrifices scientists throughout this country have made of their time and effort to have DDT compositions ready for the armed forces and the public.

"The product never had been manufactured commercially in the United States, wherefore a difficult production problem arose. This was solved in an amazingly short time by the Cincinnati Chemical Works at Norwood, Ohio. They began in May, 1943, to manufacture DDT without contract or letter of intent. Until the first of 1944, the Cincinnati Chemical Works was the only maker of DDT in the United States. Since January 1st three other companies have produced DDT and have accounted for 40 per cent of total production; Cincinnati alone producing 60 per cent. Expediting by the War Production Board of much needed machinery aided greatly the early mass production of the product.

"Geigy, through the Cincinnati Chemical Works, was almost solely responsible for the louse powder which conquered the recent typhus epidemic in Naples and Cincinnati Chemical Works has been by far the largest producer of DDT up to this moment. Many thousands of pounds of its product have been flown and shipped to various fronts. Up to date, the quantity manufactured in the Cincinnati Chemical Works has been sufficient to protect over 50,000,000 individuals against typhus for one month. During last January there were in the Naples area alone several million applications, this 'Neocid' dusting procedure having since been shown in newsreels throughout the United States.

"Other compositions of DDT in emulsion form have been used to impregnate clothing. The lethal effectiveness against the typhus-bearing louse is retained for a month and longer in clothing impregnated with DDT emulsion, despite several normal launderings. As experiments develop, other disease-preventive possibilities come to light. Walls and ceilings covered with a 'Gesarol' spray remain deadly to flies for three months. Dairy and beef cattle made nervous by flies have been quieted by sprayings of the compound. The results thus observed

(Turn to Page 147)

# thanite's NEW RESEARCH LABORATORY



Already in operation is this new and up-to-date insecticide laboratory at the Hercules Thanite plant in Brunswick, Georgia. Here, in a completely air conditioned building, every plant batch of Thanite is certified as to potency by actual testing on carefully standardized breeds of insects. Modern facilities are also provided for important research and development work.

This is a further safeguard to the quality of Thanite, the modern toxic agent; insuring each one of its six important advantages:



**HIGH KILL WITH LOW COST**—For instance, just 3% Thanite in 50 viscosity oil produces a cattle spray with the killing power of an AA household spray.



**QUICK AND LASTING KNOCKDOWN**—Peet-Grady tests and field counts reveal Thanite's extremely high knockdown—and insects stay knocked down.



**LONGER-LASTING REPELLENCY**—Most commercial live stock sprays lose repellency after one hour—Thanite sprays have shown repellency for more than seven.



**SAFETY**—Thanite household and cattle sprays are harmless to humans and warm-blooded animals.



**STABILITY**—Thanite's power is unaffected even by exposure in flint glass to sunlight for over a year. This helps avoid losses, packaging difficulties, assures consumer satisfaction.

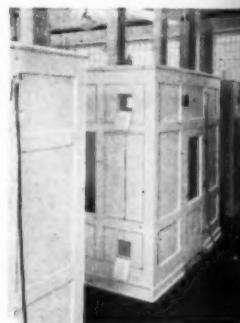


**LOW RESIDUAL ODOR**—Thanite is low in residual odor and taste, and is non-staining.



These advantages are not mere claims; they are *facts*, amply substantiated by (1) laboratory findings; (2) field tests by Kansas State College; (3) U. S. Government tests resulting in specification of Thanite for military use\*; (4) ever-increasing records of consumer acceptance.

\*This is a statement of facts, not a Government endorsement.

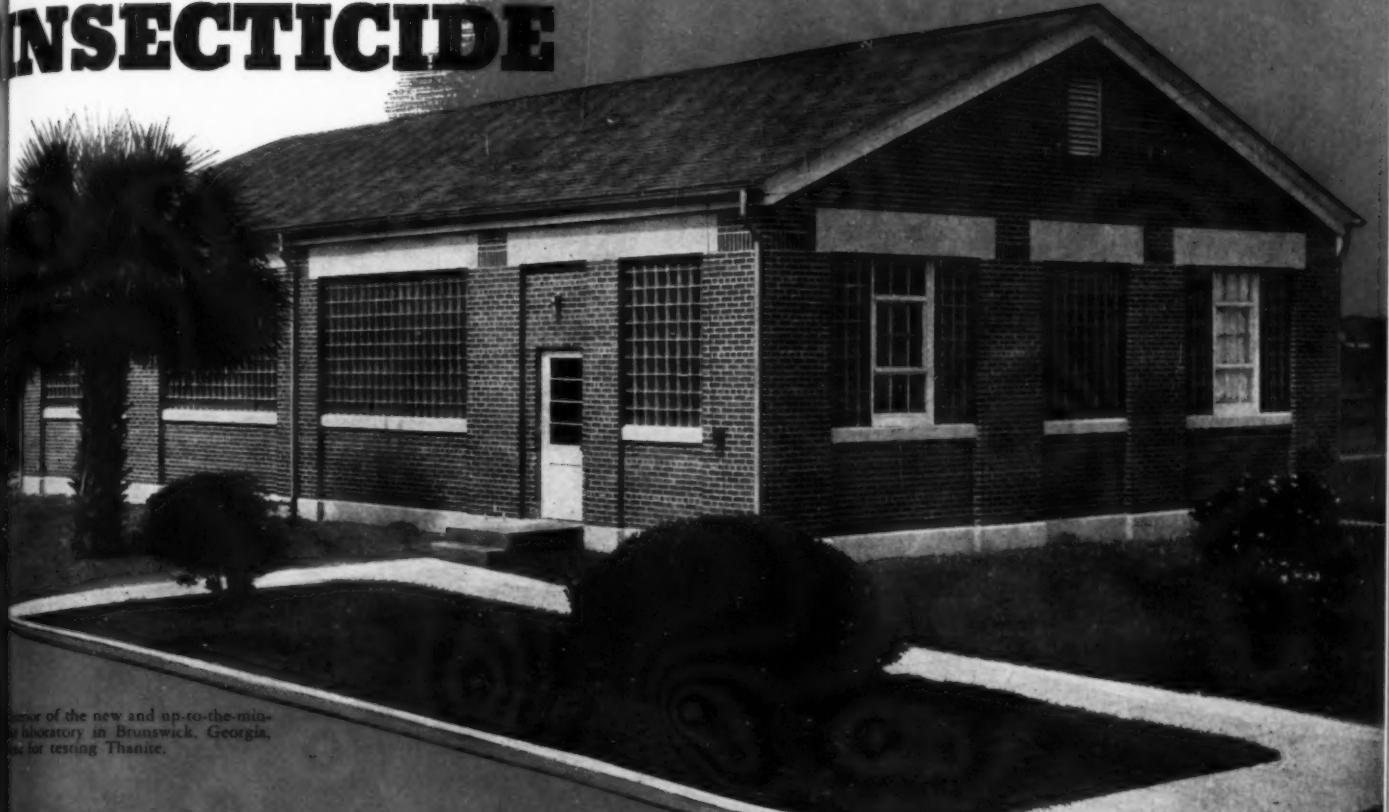


Three Peet-Grady Chambers provide the authoritative basis for constant testing of Thanite's killing power.

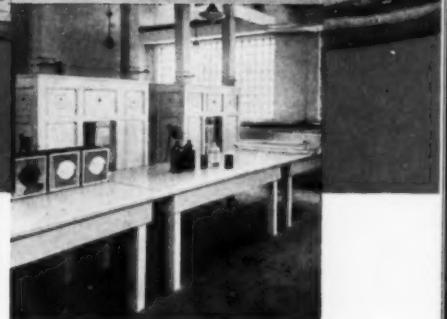
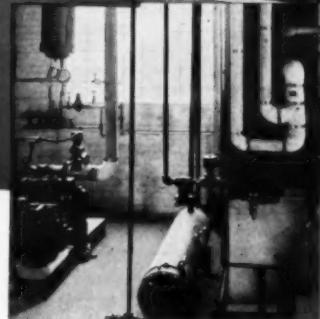


## HERCULES

# NEW INSECTICIDE



Exterior of the new and up-to-the-minute laboratory in Brunswick, Georgia, for testing Thanite.



Peer-Grady Chamber flies are exposed to Thanite sprays. The time in which they die tests effectiveness.

Flies used in tests must be of standardized characteristics. For the purpose of uniformity flies are carefully raised in this special breeding room.

Air conditioning equipment supplies the entire building with the non-fluctuating atmospheric conditions essential to accurate testing.

Nerve center for Thanite research is the spacious, completely-equipped main laboratory room.



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Gentlemen: Please send me, free, the new 20-page booklet telling about Thanite, the modern toxic agent.

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## OVER THE TRANSOM

by Preston Peaker

ASHINGTON, D. C.—Summer is here and all the boys and girls in the temporary government buildings have started to fry as usual. The crew in Temporary S is expected to be done to a nice golden brown about July 4!

About a hundred tons of pyrethrum flowers recently received from Brazil are going mostly for agricultural purposes as they test too low for use in the Army aerosol insecticides.

From Madagascar, a freighter is now afloat en route for the U. S., port unnamed, carrying large quantities of geranium, lavender and vetivert oils for soap perfuming, not to mention a good cargo of vanilla beans. American buyers are reported to have put down "cash on the barrel head" in Madagascar several months ago for the goods. This is the first boat coming direct to the U. S. from Madagascar, previous cargoes having gone to England. All the items are very scarce on the American market.

*Although the Army will not admit it officially, civilians who are buying soaps and allied products for the Army have off the record been enthusiastic in their praise of the soap industry for its wholehearted cooperation in working out new specifications and also of those firms which are supplying the Army with soaps. All strictly unofficial, but nevertheless a nice compliment to the soap industry!*

The Navy Department is completely revamping its means, methods and materials used for insect control, both ashore and afloat. Traditional Navy methods for slaying bugs are reported being "tossed over the side" as the new modern wonders of science replace them. Hearsay has it that the Navy brass hats have been more wor-

ried by bugs in the Pacific than by the Japs!

*Small aerosol bombs,—about two inches long, like those miniature carbon dioxide cylinders which we used in pre-war days to make soda water to mix with Scotch when we had Scotch,—are about to be produced for the British Army. Our Army is reputed to want none of them. They are to carry methyl chloride and pyrethrum extract or some synthetic insecticide material if enough pyrethrum is not available. The soldier carries a half-dozen of them in his pocket. Each is a one-shot dose of insect-gas for a small tent or room. There is also considerable talk of their post-war possibilities at about six or eight cents each.*

DDT Industry Advisory Committee met in Washington, May 25th. Still discussing modifications of certain provisions of JCQD No. 1005,—the tentative specification covering DDT. Incidentally we understand that while there is but little prospect of any DDT being available for civilian use this year, experimental quantities for test can be obtained by addressing a request to WPB. They are specially inquisitive, though, as to what the prospective tester has in mind as to plans for use.

Current rate of production on DDT is reported to be 300,000 lbs. per month. WPB hopes to reach a rate of 900,000 lbs. by September, and its present goal of 1,700,000 lbs. per month by the first of the year. There are currently four "approved" producers, approval signifying that these firms have been granted priority assistance by WPB. They include Cincinnati Chemical, Du Pont, Hercules and Merck. Pilot plant stage of operation has been reached by Sherwin Williams, General Chemical, Elko Chemical Works, and tentative production is being planned by Penn Salt, Mon-

santo, Dow and Rohm & Haas. Other firms are reported interested in making DDT,—particularly if they can persuade the government to finance plants for them. Some of these planners of course will never reach the stage of actual production. Leading questions WPB is asking prospective producers are: "Have you a supply of chloral?" "How much equipment will we have to give you?" and "Do you really possess the essential 'Know how'?"

*As if C. W. Lenth did not already have enough on his hands with the activities of the Soap and Glycerine Division of WFA, supervision of industrial oils has also been turned over to him. He is now acting chief of the Industrial Oils Division. Soon this division is to be combined with the Soap and Glycerine Division and the combination redesigned as the Industrial Division. Dr. Lenth will continue to head the new division.*

A "soap blitz" on Europe is now being talked about here,—probably an OWI idea. Thousands of small cakes of soap are to be wrapped in propaganda leaflets and dropped on some of the occupied countries of Europe. The inference is that as soon as the Germans are driven out, there will be plenty of soap,—and as usual from that good-natured old gent, Uncle Sam. The odds are six-two-and-even that they will use the soap and throw away the leaflets.

Bids are shortly to be opened for a huge quantity of soap to be shipped to countries reoccupied by Allied troops. Incidentally, instead of being pleased at the prospect of receiving American soap, which will be of the yellow laundry variety, the Italians are reported to be anxious to have us ship them alkali instead, so that they can work off their stocks of olive fats, said to be heavy. Eventually plan is to follow this course. For other reoccupied European areas, where fat stocks are unavailable, we may ship both fats and alkalis, letting the recipients make their own soap.

Among other names by which DDT Army louse powder is known to the men who use it is "insect hot-foot," says a recent release from a publicity agency.

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**PASTE WAX BASE**—Produces firm, light colored paste polishes.

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Sure and effective repellent against flies. Does not stain nor mat hair of live stock. Used widely as an economical spray.

## SPECIAL STOCK SPRAY

A higher grade cattle spray. An actual fly killer—not merely a fly chaser. Effective when sprayed in stalls and stables or when applied directly on the animals.

## HOUSEHOLD FLY and INSECT SPRAYS

Efficient killers — grades AA — A and B. Odorless and Perfumed types.

*Others are making big money handling the above insecticides in a large and profitable market.  
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Quick knockdown, high kill, and outstanding repellency at low concentrations are among the features that, over a period of 14 years, have brought LETHANE 384 to a position of leadership among all insecticidal materials for livestock sprays.

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powders**

LETHANE A-70 is a safe, effective killing agent in powders for the control of roaches, ants and bed bugs. It is outstanding in speed of action, killing power, and shows high residual toxicity. Powders based on LETHANE A-70, as recommended, show low toxicity to warm-blooded animals and do not require a poison label.

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# Rohm & Haas Research

## For agricultural insecticides and fungicides

### LETHANE 60

#### Contact insecticide for sprays and dusts

LETHANE 60 is successfully replacing a large portion of the rotenone and pyrethrum formerly used in agricultural sprays and dusts. Dusts based on LETHANE 60 and these botanical insecticides have proved their superiority to dusts made with rotenone or pyrethrum alone.

### YELLOW CUPROCIDE

#### Powerful fungicide for sprays and dusts

With its high copper content, chemical stability, and excellent sticking powers, YELLOW CUPROCIDE gives highly effective control of many plant diseases. (YELLOW CUPROCIDE is temporarily unavailable because of war requirements.)

### TRITON B-1956

#### Emulsifier and spreader for agricultural sprays

Combined emulsifier, spreader, and deposit-builder for insecticidal and fungicidal sprays, TRITON B-1956 improves spray coverage, giving close-knit and uniform deposits. It conserves materials, reduces over-all costs.

### LETHANE B-71

#### Complete replacement for botanicals in contact dusts

LETHANE B-71 completely replaces rotenone, pyrethrum, and nicotine in contact dusts for the control of aphids, leafhoppers, and other soft-bodied insects. It may be mixed with arsenicals, cryolite or fungicides for low-cost, all-round pest control.

### CUPRO-K

#### An effective agent for control of cherry leaf spot

Sprays made with CUPRO-K form a protective coating that effectively prevents cherry leaf spot. CUPRO-K is non-irritating, easy to handle, has high sticking powers, does not injure the leaves or cause dwarfing of the fruit.

### TRITON X-100

#### An emulsifying agent for agricultural sprays

TRITON X-100 is an effective emulsifier for agricultural applications, and also finds use as a wetting agent in the manufacture of wettable sulphur.



3 awards to Rohm & Haas Company and its associated firms, The Resinous Products & Chemical Company and Charles Lennig & Company.

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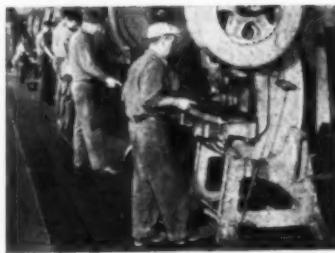
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CORRUGATED FLOOR RUNNER

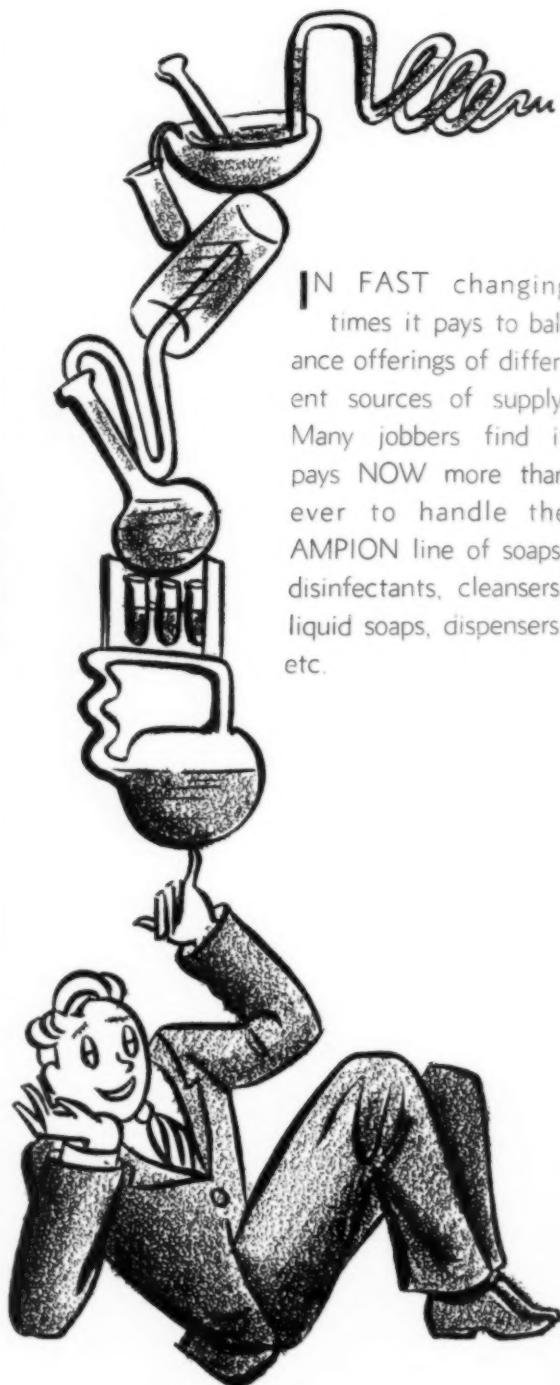


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# NEWS...



S. J. BOCKSTANZ



JACK VARLEY

## New Officers of Sanitary Supply Assn.

Sidney J. Bockstanz (left) elected president of the National Sanitary Supply Association at the recent meeting in Chicago, was one of the founders of the organization, and a charter member. He served a previous term as president of the organization, being the second incumbent in the early days of the association (1924-1925), and has filled the treasurer's post continuously since that time (1925-1944). Mr. Bockstanz first entered the sanitary supply business in Detroit in 1906 in partnership with a brother, C. K. Bockstanz. The partnership continued until 1917 when the business was incorporated under its present name of Bockstanz Brothers

Co. The growth of the firm has paralleled the expansion in the automobile industry, many units of which have long been served by Bockstanz.

Jack Varley (right) Baird & McGuire Inc. of Mo., St. Louis, is the new vice-president of the National Sanitary Supply Association. In addition to his activities in this group he has been prominent for the past ten years in the Nation Association of Insecticide & Disinfectant Manufacturers. He is a contributor to *SOAP AND SANITARY CHEMICALS* which has published a number of his articles on disinfectant subjects.

### Dr. Sears Army Entomologist

Dr. Ed M. Sears, professor of entomology at the University of Wisconsin, Madison, Wis., and well known in the insecticide industry, has obtained leave of absence from the University for the duration to become civilian entomologist with the Sixth service Command, U. S. Army. His headquarters are located in the Civic Opera Building, Chicago.

### New NAIDM Members

The following firms have recently been elected as members of the National Association of Insecticide & Disinfectant Manufacturers: W. H. Barber Co., Naval Stores Div., Minneapolis, cattle spray and household insecticides, W. F. Holden, Mgr.; Interchemical Corp., Trade Sales Div., Fair Lawn, N. J., household fungicides, W. Hansot, division mgr.; Skol Co.,

New York, insecticides and insect repellents, Clifford E. Raye, vice-president.

### New 1944 O.T.I. Available

Supplies of the new 1944 Official Test Insecticide are now available at the office of the National Association of Insecticide & Disinfectant Manufacturers Association, according to an announcement by H. W. Hamilton, secretary. The 1944 O.T.I. is required for evaluating insect sprays by the official Peet-Grady Method and is to be used for all official testing for the period from June 1, 1944 to May 31, 1945. O.T.I. of the previous year is no longer to be used in official tests. Prices for 1944 O.T.I. are unchanged from the previous year, being \$6.00 per dozen six-ounce bottles packed six to a carton. Pamphlet covering revised details of the Peet-

Grady Test procedure is included in each carton. Order with check should be sent directly to the N.A.I.D.M. office, 110 East 42nd St., New York. Orders for export shipments of O.T.I. must be placed through an American house or agent as direct export facilities are not available at this time.

### Hill Heads Proprietary Assn.

James Hill, Jr., head of Sterling Drug, Inc., was elected president of the Proprietary Association of America at the annual meeting held at the Hotel Biltmore, New York, May 15-17. Members were warned in an address by Dr. Frederick J. Cullen, executive vice-president of the association that business must be on guard against continued attempts by a group in the OPA "to destroy the American system of brand names and trade marks" and to standardize products. Fred J. Stock, chief of the Drugs and Cosmetics Section of WPB, addressed one of the sessions, describing the container situation as "most critical" and declaring reuse of containers to be absolutely essential.

### Penick Buys Jersey City Plant

S. B. Penick & Co., crude drug house, New York, has just purchased the property and 75,000 square foot plant at 209 Tenth St., Jersey City, N. J., which is just a short distance from Penick's present plant at Brunswick and Tenth St. The firm, which has other manufacturing plants at Lyndhurst, Montville and Morganville, New Jersey, has acquired the Jersey City property to expand its operations and to provide additional needed plant capacity. Two floors of the building will be set aside for the company's expanding export department.

### New Products for Meinhardt

"Meinhardt's Bug Stain Remover," a new product for removing stains from automobile fenders, windshields and body has been introduced by J. A. Meinhardt & Co., Chicago. Scheduled for early production, the company also announced, is a new automatic dispenser for use on dishwashing machines in connection with the Meinhardt "D-Q" dishwashing detergent.

### Editors Visit R. & H. Laboratory

A group of perhaps 30 editors and reporters from various trade and general circulation magazines visited the insecticide testing laboratories of Rohm & Haas Co. at Bristol, Pa., on May 16, and among other things learned of a new agricultural insecticide, "Dithane" which will very shortly be placed on the market by the developers of the "Lethane" line of household and agricultural insecticides. The new product which chemically is diethylene-sodium - bisdithiocarbamate is said to be particularly effective on potatoes, tomatoes, celery, and fruit. Tests on Long Island last summer, and in Florida the past winter, have indicated that it is possible to increase potato yields as much as 25 to 100 bushels per acre through application of "Dithane." In application it is sprayed on the ground, from which it is absorbed by the plants, building up their resistance to both insect and fungus attacks.

Donald F. Murphy, in charge of the insecticide and fungicide sales division of Rohm & Haas, acted as host to the visitors, and supervised the inspection tour through the insecticide testing laboratories. The group were shown tests of aerosols on roaches, Peet-Grady fly tests, tray and tower tests on thiocyanate roach powders, and were also given a demonstration of application of agricultural insecticides in the field by the use of the common types of hand and powder dusters and sprayers.

Following lunch at the Rohm & Haas club house, they viewed slides showing some of the results of the company's tests on "Dithane" and also heard brief talks by Dr. L. L. Hill, research chemist Dr. Frank Maughan, in charge of the insecticides and fungicides laboratory and E. L. Helwig, in general charge of the Bristol plant, who told of the long stages which must be passed in development work before new insecticides are ready for release and commercial use. One R. & H. product, still in the early stages of development, is said to hold great promise of eventually replacing arsenic insecticides for many uses. Other synthetics, among which is one known as



DR. PAUL B. DUNBAR  
succeeds Campbell as FDA Chief

### Campbell, Drugs Head, Retires

Walter G. Campbell, Commissioner of Food and Drugs, and for almost 37 years in government service, retired recently as head of the Food

"H-264," are said to present encouraging possibilities as a replacement for rotenone in the control of the Mexican bean beetle. Still another new Rohm & Haas synthetic, just placed on the

market this season after several years of intensive testing, is "Lethane B-71," which is replacing nicotine, rotenone and pyrethrum in control of sucking insects such as leafhoppers and aphids.

In 1923, he became director of regulatory work in the Department of Agriculture and in 1927 organized the Food and Drug Administration, which he has since directed uninterruptedly to the time of his retirement. At the time of the transfer of the Food and Drug Administration from the Department of Agriculture to the Federal Security Agency in 1940, Mr. Campbell was given the title Commissioner of Food and Drugs. Dr. Paul B. Dunbar has been appointed Commissioner of Food and Drugs to fill the vacancy caused by Mr. Campbell's retirement.

Visiting Editors View Aerosol Test on Roaches at  
Rohm & Haas Insecticide Laboratories, Bristol, Pa.



### Issue Insecticide Package Standards

Copies of Simplified Practice Recommendation R203-44, outlining specifications for Containers and Packages for Household Insecticides (Liquid Spray Type) have just been mailed by the National Bureau of Standards to firms in the insecticide field that have accepted the new standards. The list of acceptors numbers approximately 220 insecticide manufacturers, as well as approximately twenty more associations and government agencies.

Development of the package simplification program was begun in April, 1943, when the National Association of Insecticide & Disinfectant Manufacturers requested the assistance of the National Bureau of Standards in working out acceptable simplified standards for household insecticide packages. Recommendations were submitted to the industry in October, 1943. The standards adopted have effected a reduction from nine retail packages to five, and from eight industrial sizes to two. Adoption of the new standards will, it is predicted, result in an overall saving of 19 per cent of the glass formerly used in the packaging of household insecticides. Other savings will be made in metal for closures and paper for shipping cases.

Copies of Simplified Practice Recommendation R203-44 may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. for 5 cents each.

### O-Cedar Introduces "Perma-Moth"

O-Cedar Corp., Chicago, has mapped out an extensive promotional campaign for "Perma-Moth," a new preparation for long-life mothproofing of fabrics of all kinds. Newspapers in leading cities, trade and business publications, the company's "Hot Copy" radio show and spot radio announcements will be used to present the product to consumers, while retailers will be assisted through use of counter cards, package stuffers, window streamers, electros, matrixes and cooperative advertising. Perma-Moth is described as an odorless, stainless, non-inflammable liquid. Applied by sponging, spraying or dipping, it is said to protect a garment from moths during the life

of the fabric. Another new O-Cedar product, "Hand Guard" protective hand cream, is also slated for extensive promotion in newspapers and by radio, to reach consumers in factory, farm and home.

### FTC Drops "Listerine" Suit

Two complaints filed by the Federal Trade Commission against Lambert Pharmacal Co., St. Louis, in advertising their "Listerine" antiseptic were dropped recently by the Commission without prejudice to the right of the F.T.C. to institute further proceedings should future facts so warrant. The F.T.C. complained that Lambert represented in its advertising that dandruff is of an infectious type caused by a particular germ and that "Listerine" is effective in killing this germ. It further stated in the complaint that Lambert represented its product as effectively preventing colds, sore throats, and of killing of mouth or throat germs, and that it quickly halts food fermentation in the mouth which causes bad breath.

### Koppers Co. Appoints Salner

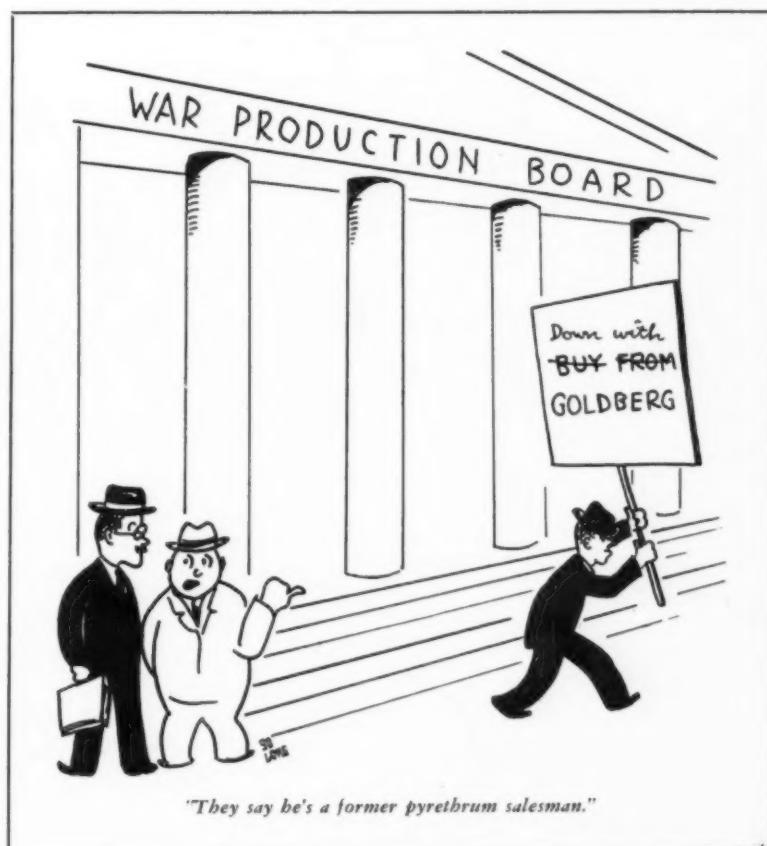
Edward Salner, formerly of U. S. Employment Service, Washington, D. C., and B. F. Goodrich Co., Akron, recently was appointed manager of industrial relations for Koppers Co., Pittsburgh. He will handle the tar and chemical division's industrial relations in nineteen plants throughout the eastern and central United States.

### Wyandotte Has Wax Remover

Wyandotte Chemicals Corp., Wyandotte, Mich., reports successful tests with their new general floor and paint cleaner, "Wyandotte F-100," which it is said loosens wax without hard rubbing. The company prescribes three or four tablespoonsfuls in a gallon of warm water to peel off old wax.

### Dooley Joins Owens-Illinois

Charles M. Dooley, formerly manager of an outdoor advertising firm in Muncie, Ind., has recently joined the merchandising division of Owens-Illinois Glass Co., Toledo.



Tomorrow's Products Today

*Odorless*

## SASOCO DISINFECTANTS

Phen. Coefs. 2-4-8



*Antiseptic Velvo*

(Reg. U. S. Pat. Off.)

*Powdered Hand Soap*

(Contains Lanolin Plus)

**None Finer—Safer—More Effective**

ADDRESS ALL INQUIRIES TO

**SANITARY SOAP COMPANY**

(Since 1921)

104 Railroad Avenue, Paterson, New Jersey

Also manufacturers of sanitary chemicals, synthetic lubricants, high pressure oils, germicidal cutting lubricants, greases, degreasing compounds and wetting agents.



## PHOSPHOROUS PASTE FOR ROACHES and RATS SINCE 1874

J-O Phosphorous Paste is so compounded as to eliminate the hazard of fire and possesses advantageous qualities peculiar to itself. A properly made Phosphorous Paste such as J-O is absolutely safe to use. It cannot burn or set fire to other substances.

Phosphorous, however, remains basic in the compound because it is the most toxic chemical used in pest exterminating, being more toxic than arsenic, strichnine or thallium. Approximately one-tenth of a grain will kill a rat. Phosphorous is a slow poison, taking from 6 to 18 hours to kill. Due to its slow but positive action, the rat succumbs to this poison. He becomes very uncomfortable and, seeking fresh air and water, in most cases, leaves the premises and dies in the open.

For all species of roaches, this product is UNEXCELLED.

**JOHN OPITZ, INC.**

50-14 39th Street

Long Island City 4, N. Y.

Manufacturers of Exterminating Products Since 1874

## TAR ACID OIL

*for use in*

## DISINFECTANTS and CLEANING COMPOUNDS

Unusually High in Tar Acids

White-Emulsion and Pink-Emulsion Grades  
made from

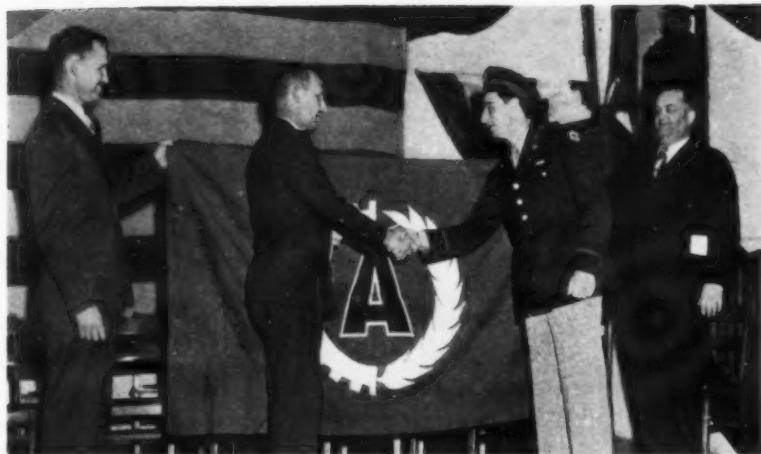
LOW TEMPERATURE COAL TAR

## PITTSBURGH COAL CARBONIZATION CO.

H. W. Oliver Building

Pittsburgh, Pa.

Producers and Refiners of Coal Tar and Its Products.



The War Food Administration's "A" award was presented to McCormick & Co. in ceremonies at their Washburn, Maine, plant recently, in recognition of the record that has been made in the operation of this first American plant for dehydration of potatoes. The award was presented by Major William Egan, Boston Quartermaster Depot, and accepted by Harry E. Umphrey, vice-president of McCormick & Co. Also representing McCormick & Co. in the ceremonies were Charles P. McCormick, president of the company, who made his first trip to the Maine plant, and J. C. McCall, manager of the McCormick New England Division. The War Food Administration originated the "A" award in cooperation with the War and Navy Departments to recognize food processing plants whose production records merit high honors.

#### Move Glickman Laboratories

Charles S. Glickman and Associates, consulting chemists, have moved their laboratories and offices to 39 W. 38th St., New York. Mr. Glickman, whose work has been mainly in waxes, polishes and chemical specialties, was formerly a research chemist for the West Disinfecting Co., Long Island City. He will be assisted by Dr. Charles Lankau, former chief chemist of the Egyptian Lacquer Co. and Dr. Jay Foster, formerly a research chemical engineer with U. S. Rubber Co. and Du Pont. The laboratory will specialize in sanitary chemicals, lacquers, inks, alkyd resins, soaps, disinfectants, waxes, protective creams and allied chemical specialties.

#### Orbis Buys Catalin Chemical Plant

Orbis Products Corp., aromatic chemicals and essential oils house, New York, recently acquired the entire chemical plant of Catalin Corp. of America, Matawan, N. J. The plant, which is made up of eighteen buildings containing modern chemical equipment, covers approximately 7½ acres of ground. The purchase was reported to have been made in anticipation of

heavy post-war demand for important aromatic and pharmaceutical chemicals. The Newark, N. J., plant of Orbis will continue to produce essential oil derivatives, insecticides, compounds and to grind water soluble gums.

#### du Pont Names Plant Head

George L. Chapman, area superintendent of the Grasselli chemicals department of E. I. du Pont de Nemours & Co. plant, East Chicago, Ind., was recently appointed superintendent of the recently purchased insecticide plant in Tacoma, Wash. The Tacoma plant was purchased from Latimer-Goodwin Chemical Co., of Grand Junction, Col., April 21, by du Pont.

#### Chemical Institute Medal to Dow

Warning that trying to ease out of governmental controls instead of abruptly terminating them after the war could lead us into permanent controls that might enslave the nation, Dr. Willard H. Dow in a speech accepting the gold medal of the American Institute of Chemists struck out for the United States to start being American again and to start at once. Dr. Dow,

president of Dow Chemical Co., Midland, Mich., received the medal at a dinner at the Hotel Biltmore, New York, May 13, for being "the outstanding man who has done the most for the chemist as a man, the chemical profession and the translation of research into products useful in both peace and war."

#### WPB Advises on Container Re-Use

How to get the best service from second-hand shipping containers is the subject of a circular issued by the War Production Board's container division to further its "Container Re-use" program. Among rules, briefly summarized here but discussed at length in the circular, are the following:

1. Appoint one man who will decide what boxes are safe for transportation. He should be responsible for proper reconditioning and sealing all such boxes.
2. Do not turn containers inside out when re-used.
3. Care should be taken to obliterate all previous shipping marks.
4. Avoid the use of weak or broken second-hand inner packing for fragile merchandise or articles in glass containers.
5. The sealing of a used box is even more important than the sealing of a new one. When flaps are pasted, apply adhesive over entire area of flaps in contact and make sure a good bond is formed. In taping boxes, the gum on tape must be moistened thoroughly and be sure the entire surface of tape is securely adhered to box. Reinforcement of second-hand containers with metal strap or cord is strongly recommended whenever this material can be obtained.
6. Receiving departments should be instructed to open carton carefully, so flaps are not torn or detached. Sealing tape should be cut. Where glue or silicate has been used for sealing, a wooden or metal tapered paddle should be used to slide under flaps and, by working from side to side, break the seal.

WPB emphasizes that only second-hand fibre containers should be used that will adequately carry goods to destination. They must also comply with railroad, motor carrier and express company regulations. When unfit for further re-use they should be discarded, but not burned up. "Bundle and get them to a box manufacturer for use in making new boxes," says the WPB.

# METAPLUS

an alternate for  
TRISODIUM PHOSPHATE

▼ ▼ ▼

**METAPLUS** cleans better, costs less and is more readily available.

We guarantee **METAPLUS** to outperform Trisodium Phosphate in any cleaning operation by itself or in mixtures.

Backed by fourteen years' experience in the alkali cleaning field.

Jobbers will also be interested in our other products. Dishwashing Compounds — Driveway Cleaners.

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MACKENZIE LABORATORIES, INC.  
Front and Yarnall Streets  
Chester, Penna.



## Much Depends on the WAY You Spray

THE difference between ordinary and excellent results with insecticides is often in *method*—at least it has been found that *powered* spraying with the well-known and widely used

### ADAM A. BREUER'S ELECTRIC INSECTICIDE SPRAYER

insures proper application of insecticides under the most difficult conditions. Its powerful motor ( $\frac{1}{4}$  to 1 h.p.) shoots insecticides up to 20', penetrating cracks, crevices and hard-to-reach places. Tell us about your problems and requirements.

We do not sell insecticides. Our business is the manufacture of Sprayers. (Patented in U. S. A. and foreign countries.)

Breuer Electric Mfg. Co. 5118 N. Ravenswood Ave.  
Chicago 40, Illinois

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### COAL TAR PRODUCTS

### ACTIVATED CARBONS

### PYRETHRUM EXTRACT

### CARNAUBA WAX

### CAUSTIC POTASH CAUSTIC SODA

### SODA ASH AROMATIC OILS

### STEARIC ACID PYRIN

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**CHEMICAL SALES  
CORPORATION**  
**PITTSBURGH 19, PENNSYLVANIA**

## Announcement . . .

E. G. Thomssen is pleased to announce that he is now available as a consultant to manufacturers and others particularly in the fields of insecticides, disinfectants, floor waxes, soaps and allied products — Special attention to government specification products. Plant lay-out, equipment design, product formulation and costs, and general production problems can be undertaken backed by twenty-five years of both large and small scale practical plant experience.

**E. G. THOMSEN, Ph.D.**  
306 CENTER STREET, WINONA, MINN.

### Nelson Completes 25 Years

Henry A. Nelson, president of the Chemical Supply Co., Cleveland, and also president of the National Association of Insecticide & Disinfectant Manufacturers, recently celebrated the completion of his 25th year with that company. On May 10 a dinner was tendered Mr. Nelson by J. W. Ellis, chairman of the board of the firm and other employes at the Hotel Statler, Cleveland. Mr. Ellis came from his home at Captiva, Florida, to present Mr. Nelson with a watch to mark the occasion. Mr. Nelson began his employment with Chemical Supply in 1919 as office boy, only a few years after arriving in this country from Holland where he was born.

### Oppose Boric Acid Poison Label

A bill, H.R. 4708, has been introduced in the House of Representatives by Rep. Sol Bloom, which would require products containing boric acid and certain other products to bear a poison label,—the outgrowth of a recent accident in which five infants died as the result of a mistaken administration of boric acid. Boric acid is used in a few roach powders among other things. The Bloom bill would require use of the wording: "Warning, —Poisonous If Used Internally"—, on the containers of products containing any quantity of boric acid, or any other substance which is poison when used internally and which resembles another drug in appearance.

A similar measure is under consideration by the City Council of New York. The New York version like H.R. 4708 is opposed by drug, chemical and allied trades groups and also by people outside these groups. The *New York Times* editorially opposed such measures on the ground that the "poison warning" by too widespread use would lose its significance and that present ordinances and laws already govern conditions of use of boric acid, etc.

### Dooley Joins Owens-Illinois

Charles M. Dooley, formerly an advertising man for many years, was recently added to the staff of the merchandising division of Owens-Illinois Glass Co., Toledo.



Oliver G. Jakob



Walter P. Murray

### Continental Makes Appointments

The appointment of three district sales managers, a general manager of general line sales and a manager of the company's newly created plastics division were announced early last month by Continental Can Co., New York. Walter P. Murray, with the organization since 1928, will direct general line sales activities on a nationwide basis, with headquarters in New

York. Oliver G. Jakob was appointed manager of the new plastics division. He has been with the firm since 1924, most recently as district sales manager. From New York headquarters he will supervise the company's promotion of its new low-pressure MR-resin plastic laminate. The three new district sales managers and their territories are: Guy Bollinger, Baltimore; J. I. Donahue, New York, and C. W. Smith, Phila.

### DDT OUTLOOK

(From Page 129)

on farms point to preventive possibilities against diseases transmitted by flies to human beings. Thus diarrhea and dysentery which plague armies in the field will be ameliorated by the destruction of the disease-carrying fly. Statistics are not available on the effectiveness of this control method at present but interesting data should be obtained in the near future. In civilian life many cases of typhoid are caused by flies. Here again, destruction of flies and reduction of cases must be considered companion incidents.

"Tests on dogs and cats have shown that 'Neocid' not only eradicates fleas but also affords subsequent protection for a long time. In ordinary domestic use, the composition has been most efficacious against moths, roaches, bedbugs, silverfish. Beds properly sprayed just once with a DDT composition continue to be 100 per cent effective even after 300 days against the bed-bug, the bane of some hospitals and institutions. House owners may also be comforted by assurance of its deadliness to termites. In this case it is a palliative rather than a preventive control.

"It has been indicated by field tests conducted by the U. S. Department of Agriculture and collaborating entomologists that DDT compositions, 'Gesarol' sprays and dusts are successful against such garden pests as the Japanese Beetle, thrips, tomato fruit worm, plant lice and the three im-

portant cabbage worms. In attacking the Oriental fruit moth, peach damage has been reduced from 60 to 90 per cent compared to unsprayed trees. 'Gesarol' dust controls the white apple leafhopper, gives excellent promise against the apple maggot, has shown splendid results in preliminary efforts against the codling moth, Enemy No. 1 of the apple orchard. Whereas (from three to ten) substantial applications of arsenate of lead are required to combat the codling moth, 'Gesarol' is needed only in relatively small quantity and applied much less frequently.

"'Gesarol' dust completely protects against the Colorado potato beetle and takes care of the potato leafhopper, the tarnished plants bug and aphids. Insects attacking peas, celery and other crops have been controlled. One of the most spectacular results thus far obtained is control of the corn earworm. Good results have also been obtained against the European corn borer. In the citrus industry, early results against the red scale have been highly promising.

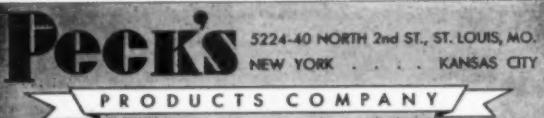
"Like the natural products, pyrethrum, rotenone and nicotine, DDT compositions are poisonous on contact, paralyzing an insect's nervous system. These natural products, pyrethrum, rotenone and nicotine, however, lose their strength in a short time after application to the plant. Lead arsenate, Paris green and other inorganic stomach poisons hold their effectiveness indefinitely, but the insect must eat the poison if it is to be killed. Certain insects, however, like plant lice, do their feeding by sucking the sap within the plants and so do not swallow

## PECK'S

Headquarters for  
over 25 years

OIL SOAPS  
TOILET SOAP BASES  
LIQUID TOILET SOAPS (concentrated)  
OIL SHAMPOOS  
SURGICAL GREEN SOAPS  
TINCTURE GREEN SOAP USP  
U.S.P. GREEN SOAPS  
POWDERED AND CHIP SOAPS  
SOAP POWDERS  
LIQUID FLOOR SOAPS  
PEXBRITE W. WAX  
FLOOR VARNISH  
RUG SHAMPOO (concentrated)  
DISINFECTANTS  
INSECTICIDES

*Other Specialties*



*Everything in Soaps, Disinfectants, Waxes, Etc.*

## PERFUMERS

### BASIC MATERIALS



We specialize in originating products to meet unusual perfume requirements for the soap and sanitary chemical industry.

## BUSH AROMATICS, Inc.

136 Liberty Street

New York 6, N. Y.



THE MARK OF QUALITY

## PALE WOOD ROSINS

They will help  
the soapmaker  
"stretch" his fats.

## CROSBY NAVAL STORES, INC.

PICAYUNE, MISSISSIPPI

We announce development of new type soap colors

## PYLAKLORS

They have good fastness to alkali, light, tin, ageing.

The following shades are already available:

Bright Green	Dark Brown
Olive Green	Palm Green
Yellow	Golden Brown
True Blue	Violet

*It will pay you to send  
for testing samples.*

## PYLAM PRODUCTS CO., INC.

*Manufacturing Chemists, Importers, Exporters*

799 Greenwich St.

New York City

*Cable Address: "Pylamco"*

the dust or the spray residue left on the outside of the plants. For these there must be an insecticide that will kill on contact.

"Gesarol" is both a stomach and contact poison, a unique characteristic, indeed. Claims by Geigy, Switzerland, of this double quality were at first received with some skepticism by American scientists. Their reluctance may be appreciated when it is stated that of 3,000 synthetic organic insecticides tested by the Department of Agriculture only two were found to possess both contact and stomach lethal qualities, sodium fluoride and DDT. From an economic standpoint, the savings may be understood when it is known that in the same area it has been necessary heretofore to use two poisons, stomach and contact, to combat the two types of pests. With few exceptions "Gesarol" takes care of both.

"Fumigation and egg destruction, which are other general methods of insect control, are not as convenient and direct in action as the spraying and dusting with DDT compositions. Incidentally, DDT compositions have no ovicidal value (do not kill the eggs), but the effect of these compositions is so lasting that the insect is killed as it is hatched.

"DDT is a white powder, with a pleasant, slightly fruity odor. It is practically insoluble in water but is readily dissolved in most organic solvents such as kerosene, xylene, acetone, etc. In addition to its stability and durability, it has a simple chemical structure, permitting production by a straightforward process from common chemicals such as alcohol, chlorine and benzene. This is of particular importance at a time when far eastern sources of pyrethrum and rotenone have been practically closed to us and other sources are unable to supply the demand.

"With "Gesarol" already proved toxic to many agricultural pests, Geigy believes that after military needs have been accommodated the general commercial production of "Gesarol" will open the way to many applications in the field of agricultural insecticides. Meanwhile, it is not claimed for "Gesarol" and "Neocid" that they are cure-alls. They are not. They are specific. They cannot be said to replace in every way any one of the presently employed insecticides, nor are present DDT compositions eminently effective against all insects as is evident by the poor results so far indicated against the Mexican bean beetle, the red spider, the cotton boll weevil and only fair results on some others.

"The toxicity of "Gesarol" and "Neocid" preparations to man and animals is still under investigation by the U. S. Public Health Service, the Food and Drug Administration and the Kettering Laboratory of Applied Physiology of the University of Cincinnati,

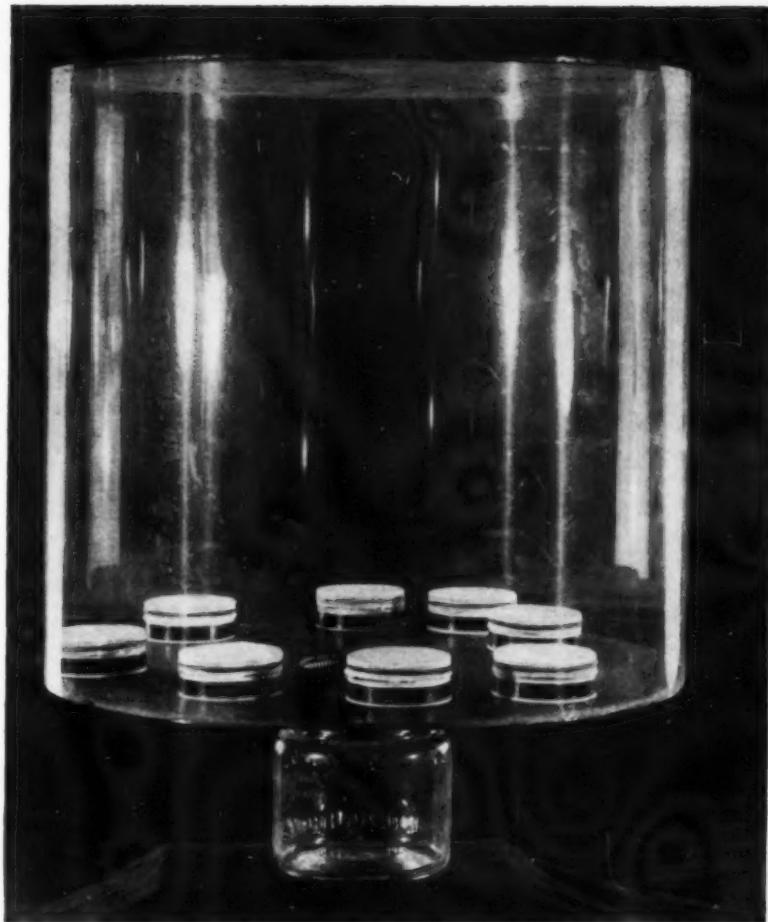


Fig. 7—Apparatus for testing fumigants sold for control of clothes moths. Note covered pill boxes.

the last mentioned being sponsored by Geigy. Research goes on. Indeed, considerable research is still necessary to determine all the possible uses and ineptitudes of DDT compositions. The forms and methods of application, the rates of application and the dosages on specific plants and in specific climates must be settled. Research is proceeding as rapidly as good practice permits. Enough has been revealed to indicate the possibility of wide application in agriculture, households and in preventive measures against disease-carrying insects to establish the DDT compositions as among the great scientific discoveries of our time."

#### INSECTICIDE TESTING

(From Page 117)

are hung in the Peet-Grady chamber, subjected to the spray, set aside, and examined from time to time.

(We regret the necessity of running an article of this type in two parts, but paper rationing makes this necessary. Part II dealing with cockroaches and rats will appear in our July issue.)

Fig. 8—Device for testing repellents for control of clothes moths. The tube is made of cellophane with a center section of wire screen. Two fruit jars painted black are fastened to the ends. Material to be tested for repellency is placed in one of the jars and the other is left empty. A number of adult clothes moths are introduced through the entrance in the screen.

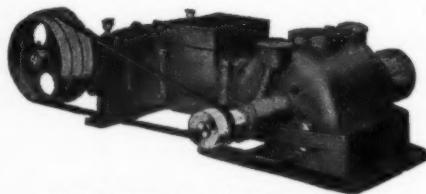
*Special Offerings of*

# SOAP MACHINERY

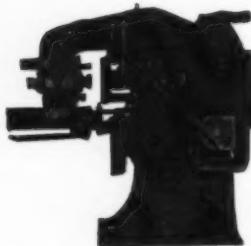
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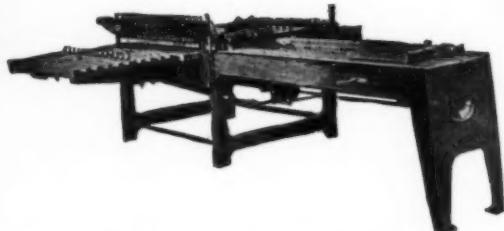
Newman's BRAND NEW  
Steel Steam Jacketed  
SOAP CRUTCHERS  
Sizes 1,000 to 10,000 lbs.



SOAP POWDER MILLS  
Sizes 10A and 14



JONES AUTOMATIC combination laundry and toilet soap presses. All complete and in perfect condition.



2 Automatic Power Soap Cutting Tables.

Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.

## INVESTIGATE THESE SPECIAL BARGAINS

Johnson Automatic Soap Chip Filling, Weighing and Sealing Machines for 2 lb. and 5 lb. Packages guaranteed in perfect condition.

### ADDITIONAL REBUILT SOAP MACHINERY

All used equipment rebuilt in our own shops and guaranteed first class condition.

- H-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.
- Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.
- Ralston Automatic Soap Presses.
- Scouring Soap Presses.
- Empire State, Dopp & Crosby Foot Presses.
- 2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.
- H-A 4 and 5 roll Steel Mills.
- H-A Automatic and Hand-Power slabbers.
- Proctor & Schwartz Bar Soap Dryers.
- Blanchard No. 10-A and No. 14 Soap Powder Mills.
- J. H. Day Jaw Soap Crusher.
- H-A 6, 8 and 10 inch Single Screw Plodders.
- Albright-Nell 10 inch Plodders.
- Filling and Weighing Machine for Flakes, Powders, etc.
- Steel Soap frames, all sizes.
- Steam Jacketed Soap Remelters.
- Automatic Soap Wrapping Machines.
- Glycerin Evaporators, Pumps.
- Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.
- Perrin 18 inch Filter Press with Jacketed Plates.
- Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.
- Day Grinding and Sifting Machinery.
- Schultz-O'Neill Mills.
- Day Pony Mixers.
- Gardiner Sifter and Mixer.
- Proctor & Schwartz large roll Soap Chip Dryers complete.
- Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.
- Day Talcum Powder Mixers.
- All types and sizes—Tanks and Kettles.
- Ralston and H-A Automatic Cutting Tables.
- Soap Dies for Foot and Automatic Presses.
- Broughton Soap Powder Mixers.
- Williams Crutcher and Pulverizer.
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*Send us a list of your surplus equipment—  
we buy separate units or complete plants.*

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Phone Yards 3665-3666

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**Members Association of Consulting Chemists and Chemical Engineers**

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**SEIL, PUTT & RUSBY, Inc.**

*Analytical and Consulting Chemists*

Specialists in the Analysis of Organic Insecticides, Pyrethrum Flowers, Derris Root, Barbasco, or Cube Root—Their Concentrates and Finished Preparations

DRUGS—ESSENTIAL OILS—SOAP

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**SKINNER & SHERMAN, INC.**

246 Stuart Street Boston, Mass.

*Bacteriologists and Chemists*

Disinfectants tested for Phenol Coefficient. Toxicity Index determined by chick embryo method of Salle. Antiseptics tested by agar cup plate and other standard methods.

Chemical Analyses and Tests of All Kinds

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Wax Polishes, Soaps, Specialties, Protective Creams, Disinfectants

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**FILLING AND PACKAGING SERVICE**

We can fill label and pack

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**Positions Open**

**Wanted:** Experienced chemist to create new line of disinfectants, insecticides, floor waxes and sanitation chemicals for janitor supply trade. Good opportunity with old established brush manufacturer with national distribution desiring to enter chemical field. Address Box No. 717, care *Soap & Sanitary Chemicals*.

**Soapmaker** — Experienced making laundry and toilet soaps. Must be capable of boiling soap. Excellent opportunity. Vicinity of Philadelphia. Address Box No. 719 care *Soap & Sanitary Chemicals*.

**Chemist Wanted:** — Sanitary Products manufacturing chemist wanted by Industrial Sanitation Consultants in Kentucky who desire to build a research and product development department to maintain highest standards of progressive service to clients. We need a high grade scientist trained in controlled observation and interpretation of data with an extensive background in the manufacturing field of Sanitary Products (soaps, detergents, emulsions, waxes, disinfectants, insecticides) and a keen understanding of the needs of industry. Give complete background in detail. State salary requirements. Send photograph. Address Box No. 715, care of *Soap & Sanitary Chemicals*.

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**We Want a Wax Chemist** for formulating Self Polishing and Spirit Type Waxes. Should also have wide knowledge and experience in formulating soap and floor cleaners. This position is with one of the leading manufacturers in the middlewest. Right man will receive a substantial salary. Reply fully—our chemists know about this ad. Address Box 726, care *Soap & Sanitary Chemicals*.

## Positions Wanted

**Soapmaker**—Years of experience in making all types of soaps, desires position with reliable firm, Pacific Coast preferred. Address Box No. 712, care of *Soap & Sanitary Chemicals*.

**Soapmaker:** 38 years of age, twenty years experience making toilet and laundry soap, cleansers, etc. wishes to contact a reliable soap manufacturer. Address Box 727, care of *Soap & Sanitary Chemicals*.

## Miscellaneous

**Wanted:**—FACTORY for distillation and solvent work about 50,000 ft. Prefer some equipment, stills, condensers, etc. Need siding, yard space, high pressure boiler, plenty of water and electric power. Unrestricted. In New Jersey manufacturing area within 15 miles of New York City. Address Box No. 713, care of *Soap & Sanitary Chemicals*.

**Will Purchase Immediately**—Pneumatic Packaging Machine, used for chips, powder, cleanser; also dry mixers, chip dryers, crutchers, and automatic soap press. Address Box No. 720, care *Soap & Sanitary Chemicals*.

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**Floor Brushes**—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

**Nailing Machines Wanted:** We want used Morgan or Doig wood box Nailing Machines at once. State make, size, best cash price. Chas. N. Braun Machinery Co., Fort Wayne, Indiana.

**For Sale:** Have several thousand gallons water emulsion wax which jelled in tins of pints, quarts, half-gallons and one gallon. Has high lustre when buffed. Will sell as is only. Sample sent on request. Address Box 803, 1474 Broadway, New York, 18, N. Y.

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**For Sale:** 2—5 Roll water cooled inclined steel roller mills, 16" dia x 40" face. Houchin-Aiken Foot Presses; Soap Frames; Cutting Tables; Plodders, 12 x 30 and 16 x 40; Three Roll Water Cooled Steel Mills; 4 Roll Stone Mills; Dryers; Chippers; Powder Fillers; Mixers; Grinders; Filter Presses; Disc Filters; Pumps, etc. Send for Soap Bulletin No. 402. We Buy Your Surplus Equipment for Cash. Stein Equipment Corporation, 426 Broome Street, New York City, 13.

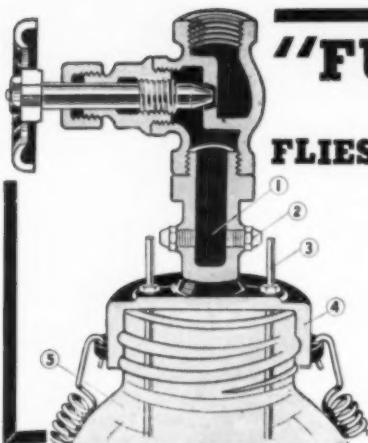
**To Teach Soap Making**—South American in the U. S. desires to be tutored in the theory and practice of practical soap making one or two nights a week by an experienced soap maker. Located in New York. Address Box No. 722, care of *Soap & Sanitary Chemicals*.

## RED SQUILL

(Continued from Page 125)

have set up standards of toxicity. Before squill can be offered for delivery to the market, it must be of the standard of toxicity set up by the Government. The standards set up by the Fish and Wildlife Service are as follows: a red squill powder must assay 1.d.50 500-600mg/kg. The squill chips now arriving in this country vary in toxicity from 500 mg/kg to 2000 mg/kg and some higher. In order to place a standard squill of 500-600 mg/kg on the market, a manufacturer must subject these squill chips to an extraction process followed by a fortification process, until a squill powder is produced which when fed to standard male rats will kill 50 per cent of them at the 500-600 mg/kg level.

Most of the fortified red squill powder that is offered for sale today has been tested at either this laboratory or at the Wildlife Research Laboratory of the Fish and Wildlife Service at Denver, Colorado, or both. If it tests up to Government standards, it is placed on the market. The commercial firms producing this fortified red squill are now able to process the raw material in large enough quantities to satisfy the present market demands.



## "FUMERAL" POWER SPRAYERS INSTANT DESTRUCTION OF FLIES - ROACHES AND ALL OTHER INSECTS

(1) Operated by factory steam or air pressure. (2) Four Fumeral pressure nozzles which account for Fumeral's well-known efficiency and economy. (3) Removable liquid tubes, easy to clean and to adjust. (4) Solid bronze casting of simple construction.—Safety screw thread.—High-grade needle valve. (5) No pressure is applied to the standard jar of half gallon capacity.—Write for details.

Pat. Sept., 1934—Aug., 1938

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**FUMERAL COMPANY — RACINE, WIS.**



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### PER-MO RAT AND MICE LIQUID

This tested liquid is fatal to rodents. Can be used in liquid form or on baits. Keep it in stock and sell it to your regular customers with other sanitary supplies. "Per-Mo" is a profitable item!

### PER-MO MOTHPROOFING LIQUID

Let your customers do their own mothproofing with "Per-Mo." The Guaranteed Mothproof Liquid. It acts like a colorless dye in impregnating fabrics, has no odor and will not spot or stain. Literature and Full Particulars first letter.

### PER-MO MOTHPROOF CO.

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*Every effort is made to keep this index free of errors, but no responsibility is assumed for any omissions.*



"Ah guess dat Chick Sale wuz right, Cuthbert!  
Maybe dis am a job fo' a specialist after all!"

## Specialist...

A specialist is one who because of training, experience, and concentration of effort does a certain job better than the other fellow. By the same token, a publication which specializes usually does a better job than one which tries to cover too much territory. That is why we feel that **SOAP & SANITARY CHEMICALS** does a better job for its readers and advertisers in the field of detergents and sanitation products, — it specializes, — and as a consequence is really read by its subscribers. Its subscription renewal rate of over 81% would seem to substantiate this fact.

If you would obtain real advertising coverage in the field of soaps, detergents, and sanitary chemical products, we suggest a publication which has genuine reader interest because it specializes, —

**SOAP and Sanitary Chemicals**  
254 WEST 31st STREET  
NEW YORK 1

Member Audit Bureau of Circulations

### Tale Ends

THE Internal Revenue Department is reported to be checking with soap makers as to the origin of the coconut oil which they have been using since September 1, 1942. Many soapers have apparently been reporting all of their coconut oil as of Philippine origin in filing Form 932 covering liability for processing taxes. The volume of oil so reported, as a matter of fact, is far greater than was the available supply of Philippine oil in the United States. For the soaper the point of origin may seem unimportant as the processing tax is now three cents a pound regardless. For the Internal Revenue Department, however, point of origin has an important meaning as the tax collected on Philippine oil must be set aside for eventual return to the Philippine Treasury, while tax on other oil goes into the U. S. Treasury. Accordingly the Revenue Department is reported asking numerous soapers to recheck their previous reports as to origin of the coconut oil which they have been using over the past two years.

\* \* \*

We understand that a permanent grant covering funds for insecticide research is being sought by the U. S. Department of Agriculture. This would free the department from the necessity of going to Congress for annual appropriations,—and also perhaps from the necessity of defending and justifying their use of such funds.

\* \* \*

Effect of insecticides on bees must be checked prior to use, for materials that kill bees effectively stop pollination. Rotenone is very toxic to bees and should not be sprayed on trees when they are in bloom.

\* \* \*

Large advertisements in the newspapers, chiefly by department stores announcing soap sales, are creating an unfavorable reaction in some government bureaus, particularly WFA. Although soap supplies are improved over last year, and although the advertising is wholly for toilet soaps, the impression is being created that all soap supplies are now large. This is definitely not the case.

*Our Quality is always higher  
than our price!"*

## UNCO SIMILE BERGAMOT

**A**S AN effective substitute for Italian Oil Bergamot, we suggest UNCO SIMILE BERGAMOT in perfumes for fine toilet soaps, shave creams, lotions, toilet waters, creams . . . because

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4. UNCO SIMILE BERGAMOT is priced well within the perfuming cost range for even the lower-priced toilet soaps . . .
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Let us send you a sample.

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161 Sixth Ave. New York

**Agricultural Dust and Spray Manufacturers!**

**EXTEND YOUR ROTENONE SUPPLY**

**IMPROVE YOUR PRODUCTS!**

**USE**

**VELSICOL**

**ROtenone COMBINATIONS**

FROM the truck farms of California covering many thousand acres to the Victory Gardens in city lots, Velsicol impregnated dusts and sprays are protecting food crops from insect injury, economically, safely, efficiently.

Velsicol-rotenone dusts and sprays are effective against a wide variety of insects such as thrips, aphids, cabbage worms, leaf eating beetles, leaf-hoppers, leaf-tiers, etc.

VELSICOL AR-60 is ideal as *solvent, activator, and extender* for the rotenone and associated toxic contents of derris, cubè, and other rotenone bearing roots, as well as for pyrethrum, and pyrethrum marc. Its solvent power leaches out the active rotenone principles of the roots, increasing their effective surface contact-area. The resinsates derived from derris, cubè, etc., are also soluble in AR-60 in all proportions. Because it exhibits strong synergistic action with rotenone its use permits a reduction of the rotenone content far below the usual 1% normally found in available agricultural insecticides. AR-60 is also compatible with other toxicants commonly used in agricultural dusts and sprays. It is water insoluble . . . has low volatility . . . is readily emulsifiable . . . AR-60 retains rotenone in solution even at 0°F.

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**VELSICOL AR-60 for Livestock Sprays**

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Obtain complete information about AR-50 for household sprays . . . AR-60 for cattle sprays, and AR-60-rotenone combinations for your agricultural dusts and sprays.



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